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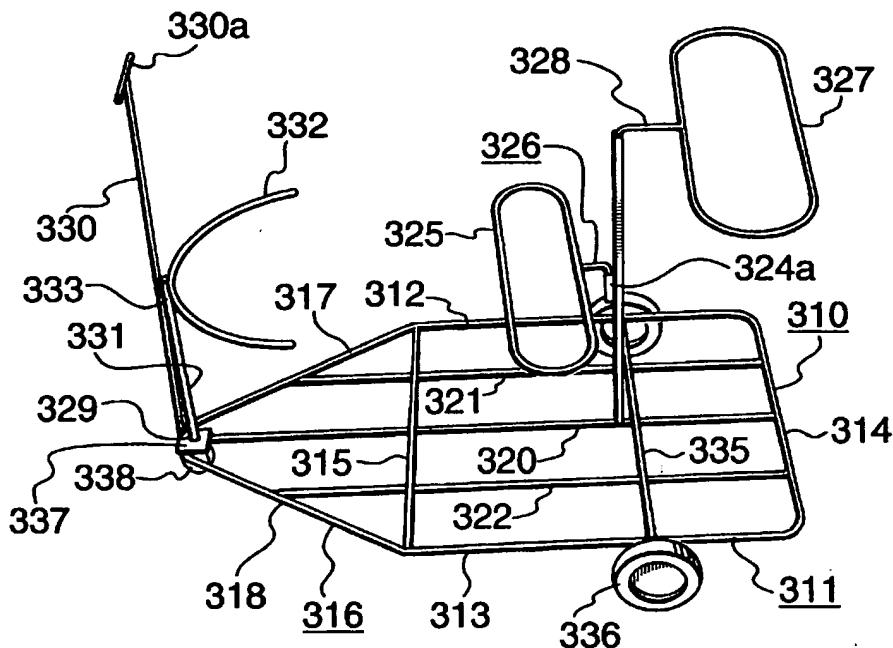
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**(54) CHARIOT FIXE OU A ROUES POUR SYSTEME DE RECYCLAGE**

## RECYCLAGE

**(54) STAND OR WHEELED CART FOR RECYCLING SYSTEM**



(57) A stand or wheeled cart is provided for the temporary support of containers for recyclable materials. The stand or wheeled cart includes a base platform of an open framework nature, e.g., which is formed of square cross-section, hollow metal tubing. At least one main post, and desirably one or two additional posts, upstand from the base platform. At least two open framework support members are secured to the main post, and are located at positions which are diametrically opposed to one another. They are preferably located vertically above one another. Optionally, means are provided on the other posts for supporting a cylindrical garbage can or for temporary storage, or for providing a handle for pushing the wheeled cart.

## ABSTRACT

A stand or wheeled cart is provided for the temporary support of containers for recyclable materials. The stand or wheeled cart includes a base platform of an open framework nature, e.g., which is formed of square cross-section, hollow metal tubing.

5 At least one main post, and desirably one or two additional posts, upstand from the base platform. At least two open framework support members are secured to the main post, and are located at positions which are diametrically opposed to one another. They are preferably located vertically above one another. Optionally, means are provided on the other posts for supporting a cylindrical garbage can or for temporary storage, or for

10 providing a handle for pushing the wheeled cart.

**(a) TITLE OF THE INVENTION****STAND OR WHEELED CART FOR RECYCLING SYSTEM****(b) TECHNICAL FIELD TO WHICH THE INVENTION RELATES**

5 This invention relates to a system for the support and transportation of containers which are specially adapted to allow separation of recyclable materials at the point of origin without requiring excessive floor space, even though the present invention is not limited to such use. In particular, this invention relates to stands or wheeled carts that are manually movable by a user, and in particular to a recycling bin cart having two or  
10 more areas for receiving a different bin to reduce the amount of lifting required to accomplish recycling.

**(c) BACKGROUND ART**

15 With the increase in disposable products, there has been a significant increase in the solid waste generated per household. Efforts have been made to have such waste separated at the point of inception, i.e., in the home. These have not been entirely successful as it was considered to be inconvenient to separate the recyclable materials from the non-recyclable material. Recently there has been pressure upon home owners to use a plurality of containers at the home collection site where the trash is collected so  
20 that different parts of trash, e.g., recyclable, may be separated from other types, e.g., non-recyclable. Thus, for example, people now separate paper in one container, metals in another container, glass in a third container and plastics materials in a fourth container, etc. The separation of these categories of trash enhances the ability of a community to recycle portions of the trash and thereby to reduce the trash collection cost  
25 of the community by the sale of the recyclable materials. However, the use of a plurality of containers has generated a need for a system to provide ease in separating recyclable materials from non-recyclable materials in the home without taking up substantial space.

At the present time, the primary device for holding separated wastes is a bin or box. The homeowner is provided with colour-coded bins to enable separating the  
30 recyclable materials, e.g., aluminum, paper, glass, and plastics materials from each

other. The recyclable materials are then collected on a weekly or bi-weekly basis. Of particular concern are heavy trash items, e.g., newspapers and glass. In the case of newspapers or glass, such bins often get very heavy and are difficult for physically-infirm or elderly people to lift and/or to carry from the house or apartment to the curb for pick-up. The recycling bins which are provided by the waste retrieval company are typically filled to the brim by the time they are picked-up for recycling. Should a homeowner miss a pick-up day, the weight of the bins can be even more excessive. If paper is to be recycled and is wetted by water, the bin weight can be very heavy. For larger families or the elderly, the weight of the bins may be excessive. Even if an individual is physically fit, the haste in movement of a weighted bin may result in a painful injury to the back if the weighted bin is moved incorrectly.

Furthermore, this problem of providing such bins is not limited to recycling bins and can be applied to most industries where items of like constituents may be placed next to each other. Many and varied styles and forms of racks, barricading frameworks, and the like, have been offered for use in connection with garbage cans and the like. Cans are used for general yard clean-up and other purposes, and are often loaded too heavily with trash and debris, and if they are of the larger sizes, they are unwieldy and sometimes dangerous to handle.

In addition, this problem exists in the mail rooms of some companies. Such mail rooms may have separate bins for first class, second class, third class, and air mail/packages. When a mail room clerk takes the items to a mail receiving site, the clerk typically stacks the bins on top of each other, which can result in damage to the contents of the mail. Similarly, the weight of multiple bins can exceed the lifting strength of an individual, resulting in injury to the worker.

Still another industry that requires bins of dissimilar material may be found on the manufacturing floor of a factory where bins can be used to hold parts for an assembly line. As with any industry where lifting is performed by the person, injury may result if the bin is lifted incorrectly during transfer. In addition, when multiple bins are used they may take up valuable floor space unless provisions are made for both stacking of the bins as well as access to the contents of the individual bins.

Still further problems exist in the carrying out of various household chores, e.g., the periodic need to take care of the laundry, as well as other tasks. While various machines have been developed over the years to make this chore somewhat easier, (e.g., automatic washers and dryers), little has been done to ease the transport of laundry and laundry supplies to and from the washing and drying equipment. Conventional baskets which have been used for the carriage of laundry and clothing, are still used in various forms today. Such baskets have numerous disadvantages, e.g., the need to lift and carry them, their relative size and bulk which obstructs the view of the path of the carrier immediately in front, and the lack of any provision for carrying additional supplies.

A number of combination recycling bins and transferring carts have been disclosed in the prior art in an effort to address the transfer of recycle bins. Among them are the following:

U.S. Patent No. 2,855,210, patented October 7, 1958, by L. A. Joyce, provided a cart rack for trash cans. The rack included a lower, horizontally-disposed, endless frame member which was provided at one side of its transverse center with a first coplanar T-shaped bracket. A second T-shaped brace was mounted within the confines of the frame member on the other side of the transverse center. The braces functioned to assist in reliably-supporting individual trash cans. An upper, horizontally-disposed, endless frame member was cooperatively-arranged in spaced parallelism directly above the lower frame member, and was provided, at a median portion thereof, with a transverse brace which was located directly above the space existing between the respective T-shaped braces. A pair of front uprights were attached at their upper ends to a forward end portion of the upper frame member, and were connected at their lower end portions to a corresponding forward portion of the lower frame members, and depended below the frame member. They were provided with an axle, which operatively-supported transporting wheels. A rear pair of uprights was connected to the respective rearward end portions of the upper and lower frame members and depended below the plane of the lower frame. A pair of diagonal braces was connected at corresponding ends with the respective side members of the lower frame member and had rearward end portions underlying, and connected to, the lower ends of the legs to provide

feet for the legs. A U-shaped handle had arms straddling and rigidly connected with forward and rearward end portions respectively, of the lower and upper frame members. The lower forward end portions of the arms were connected with the respective lower end portions of the uprights.

5        U.S. Patent 2,921,694, patented January 19, 1960, by E. W. Decker et al., provided a knock-down display cart including a forwardly-projecting base and an upwardly-projecting back. The base was formed by a pair of laterally-spaced frame members extending along opposite sides of the base, and by an overlying panel which was secured to the members. The back was formed by a second pair of laterally-spaced  
10      frame members extending along opposite sides of the back, and by a discrete, panel-like reinforcing element. The reinforcing element had side margins which were secured at spaced points therealong to the frame members of the back. Means removably secured the end of the frame members of the base to the ends of the frame members of the back, thereby to provide for knock-down assembly. A wheel shaft extended transversely through the display cart and was supported by the base and back frame members adjacent to their interconnection. Wheels were removably secured to the shaft, thereby to support the display cart at the back of the base. Foot means were formed at the front of the base for otherwise supporting the display cart so that the base was generally-horizontal and the back was generally-vertical.

15      20     U.S. Patent 2,950,925, patented August 30, 1960, by K. O. Larson, provided a push cart which included the combination of a first semicircular frame component and a second semicircular frame component which was secured to the first semi-circular frame component to form a circular frame member. The second semicircular frame component had leg portions depending therefrom. A U-shaped lower support member had the outer free ends thereof connected to the lower ends of the depending leg portions. A pair of wheels was mounted at the point of connection of the leg portions and the free ends of the U-shaped support member. A handle member was connected to the first mentioned semicircular frame component.

25      30     U.S. Patent 3,111,333, patented November 19, 1963, by T. O. Marini, et al., provided a cart which was made up of a plurality of pairs of similar, preformed, tubular

elements. The cart included a pair of vertically-disposed, laterally-spaced, similar side frames, each of which consisted of a longitudinally-extending lower section having an upwardly-extending arm at each end thereof. The longitudinal lower sections were formed with a pair of spaced, downwardly-extending bends or rounded protuberances, 5 which were connected together by an upwardly-extending medial hump or reverse bend. An elongated bolt, which constituted an axle, extended through apertures in the bends at the forward end of the side frames and had wheels which were rotatably mounted on each end thereof outwardly of the side frames. The bends at the rear end of the side frames constituted supporting legs when the cart was at rest. The upward-extending arms 10 at the rear ends of the side frames were provided with a pair of similar, aligned extensions which terminated in rearwardly-extending handle portions. The upper ends of the side frame arms were all bolted to a rectangular frame which consisted of a pair of opposed, similar U-shaped members having the free ends thereof, which were suitably connected together. A base, which consisted of a pair of similar zig-zag or V-shaped 15 members which were secured together back-to-back, was secured to, and between, the side frames, parallel to the upper rectangular frame, at the apices of the upwardly-extending medial connecting humps or reverse bends of the lower connecting members of the side frames. A medial, transverse, dividing and rigidifying X-shaped frame, which consisted of a pair of similar, diagonally-disposed crossing members was 20 detachably secured to, and between, the upper rectangular frame and the medial, connecting, upwardly-extending humps or reverse bends of the side frames.

U.S. Patent 3,280,988, patented October 25, 1966, by V. O. Bennett, provided 25 a portable can holder for supporting a row of garbage cans having side handles and removable lids. The portable can holder included a wheeled axle, and a vertical rectangular open frame which was carried by the axle at right angles thereto adjacent one end thereof. A pair of straps on opposite sides of the frame respectively connected the top of the frame with opposite end portions respectively of the axle to maintain the vertical inclination of the frame. A row of spaced hooks on the top of the frame received the side handles respectively of a row of cans, thereby suspending the row of 30 cans in vertical position above the ground level and centred on the axle with the lower

peripheries of the cans engaging the bottom of the frame. Members on the top of the frame were disposed between respective pairs of cans. A pair of chains was anchored in each member and was connected with the lids of each pair of cans respectively.

U.S. Patent 3,262,713, patented July 26, 1966, by J. Crawford, Sr., provided a utility cart including a body having spaced upright members. A pair of wheels was provided at the front end portion of the body. A pair of rearwardly-extending handle bars was spaced laterally from each other for use in trundling the cart. The handle bars extended the full length of the body structure as well as rearwardly thereof. Means were provided for rigidly securing one handle bar to certain upright members of the body structure. A tie member was provided adjacent to the rigidly-secured handle bar and was secured to other upright members. A pivotal mounting was provided for the rear end portion of the other handle bar. A releasable latching provided connection between the front end portion of the pivoted handle bar and the body structure for enabling the respective handle bar to be rocked out of the way for loading and unloading the cart. When in latching engagement, the handle bar was firmly in position for trundling the cart.

U.S. Patent No. 3,380,752, patented April 30, 1968, by A. D. Goettl, et al., provided a utility cart including the combination of a frame and axles which were freely-movably-mounted on the frame in response to gravity and laterally relative to the axis of the wheel axle means. Wheels were rotatably mounted on the axles and were adapted to roll on the ground and to support the frame. A second means on the frame supported the wheel axles in an upper position so as to permit upward retraction of the wheels and to permit the frame to rest on the ground. The second means also was adapted to support the axles in a relatively lower position on the frame, such that the wheels supported the frame in a position above the ground. The second means had stop means for holding the axles in the lower position against upward vertical movement on the frame. The second means also had relief means which were disposed to permit the wheel axles to drop downwardly from the stop means and to permit the axles to move laterally away from the stop means and then upwardly to the upper position relative to the frame, when the frame was successively raised, then moved laterally of the wheel axis, while

the wheels touched the ground, and then lowered by gravity to rest the frame on the ground. The second means included wheel axle mounting plates. Further means mounted the plates for vertical sliding movement and pivotal movement on the frame. The further means included L-shaped slotted structure. Pins were relatively-movably-mounted in the L-shaped slotted structures for movably supporting the mounting plates relative to the frame and for controlling disposition of the wheels in the upper and lower positions.

U.S. Patent No. 3,561,606, patented February 9, 1971, by I. A. Steward, provided a holder for a garbage can, having handles on opposite sides, and a removable lid, each handle having inturned opposite end portions connected to the can. The holder included a post which was adapted to be erected on the ground. A support was fixedly carried by the post and extended laterally from one side of the latter, the support providing laterally-spaced arms. The outer terminal of each arm provided an upwardly extending hook. Reinforcing spacers connected the arms at the site of the hooks. The hooks engaged in a can handle adjacent opposite inturned ends of the latter, to support a can with an outward tilt, with its bottom bearing against the post. The close adjacency of the outer surface of the hooks to the inturned end portions of the handle prevented lateral movement of the can in its hook-supported position. A laterally-extending second support was carried by the post and was located above the can and its lid. Means carried by the lid and by the second support, anchored the lid to the latter in an out-of-the-way position after it had been removed from the can.

U.S. Patent No. 4,521,030, patented June 4, 1985, by J. D. Vance, provided a collapsible and slidable cart for the transport of articles on both horizontal and oblique surfaces. The cart included a pair of support members, each having a handle portion at the upper end and a wheel which was mounted for rotation at the lower end. At least one tray member for supporting articles extended outwardly from, and was rotationally connected to, the support members. Lock means which permitted or prevented the rotational movement of the support members relative to the tray member provided the cart user with means to collapse the cart for storage. The support members had a curved, outwardly-extending lower end portion so that the wheels extended outwardly

from the remaining upper length. The curved lower ends had a low friction contact surface which permitted the cart to be transported on oblique surfaces. The light-weight tubular car construction permitted tray/support member rotation, as well as a hinged, tray perimeter member which permitted the cart to be collapsed into a second configuration.

5        U.S. Patent No. 4,821,903, patented April 18, 1989, by J. K. Hayes, provided a tubular metal cart for accommodating a plurality of bins which were designated to contain different types of recyclable trash which were filled in one location and then were transported to another location where the trash was picked up for disposal. The cart had an upper handle portion which was swept backwardly, a central vertical portion and a  
10      floor portion for bearing most of the weight of the individual trash bins. Attached to the upper part of the vertical central portion was a common lid which accommodated the plurality of bins at the collection site. The bin was braced at the rear vertical central portion and side bracing was also provided to connect the lower part of the vertical central portion with the horizontal part of the floor portion. Vertical foot portions, each  
15      of which could be provided with a rubber or plastic toe, extended from the horizontal floor portions of the bin.

U.S. Patent No. 5,192,092, patented March 9, 1993, by R. D. Benedette provided a recycling bin cart having a pair of wheels and rigid vertical support which was coupled to at least two horizontally-supported shelves which were sized and spaced-apart to receive recycling bins with the lower shelf being located close to the ground. The cart was used to transport recycling bins containing different segregated trash, e.g.,  
20      newspapers, and was used to reduce the lifting of the recycling bins for people who were physically impaired.

25      U.S. Patent 5,445,397, patented August 29, 1995, by D. Evans, provided a stackable refuse container system including multiple stackable containers, each of which could be designated for holding a particular recyclable material. The containers were vertically stacked and a cart was provided for transporting the stacked assembly to and from a curb. Each container included a removable lid, a front portion of the lid being hingably attached to provide an access to the container and a second portion which was

formed to engage and support a bottom of a complementary container. Each container also had sockets for receiving the feet of another container when a lid was not used.

U.S. Patent No. 5,595,395, patented January 21, 1992, by A. C. Wilson, provided a device for the stackable storage of various size bins used for holding items, e.g., mail, recycling materials, and piece parts, allowing each bin to rotate when the device was tilted during movement of the bins so as to prevent spillage of items placed within the bins. The bins were maintained in a parallel and horizontal plane to the ground when placed in an upright and tilted position. Wheels and a handle of the device were predisposed to operate as a stand to assist in maintaining the positional rotation of each bin. The device was constructed of a rigid frame with two wheels and a handle. Brackets formed to the size of each bin were rotatably coupled to cantilever-type supports which projected outwardly from the front of the frame providing support for each bin. The brackets, which were used to support each bin, may support various size bins, by the use of bracket inserts or flexible straps. The frame could be constructed of two rails providing support of each end of a bin, allowing bins to be stacked in a vertical position to conserve floor space. The bins were spaced-apart, and provided for rotational movement to maintain the bins in a horizontal plane to the ground despite the angular positioning of the frame.

U.S. Patent No. 5,671,933, patented September 30, 1997, by R. D. Tucker, provided a utility cart which included an open bin or container, with an open lower storage shelf which was disposed immediately below the upper bin. The lower shelf floor also served as a support for the cart when it was placed in a vertical rest position. Wheels were provided at the rearward portion of the cart, allowing the cart to be moved on the wheels with the entire weight of the cart being supported by the wheels while in transport, thus precluding any requirement for the user to lift any portion of the weight of the cart and/or its contents.

U.S. Patent 5,758,886, patented June 2, 1998, by S. M. Mayer, provided a multiple container transportation system having a moveable frame for transporting the frame from one location to another, and at least one container unit which was removably secured to the moveable frame. The container unit was made up of a container and a

cover. The container had an open top portion of predetermined internal size and a closed bottom portion of a predetermined external size less than the predetermined size of the top portion. The top portion was angled from the back of the container to the front of the container such that the front of the container had a height less than the height of the back of the container. The cover was positionable upon the top portion of the container and was configured such that the top of the cover, when in position on the top portion of the container, was parallel to the bottom portion of the container so that another container can fit upon the cover of another container.

5 Canadian Patent No. 619,241, issued May 2, 1961, to J. T. Shakel, provided a  
10 wheeled utility cart comprising a base frame structure having spaced, longitudinally-extending side members. Traction wheels were supported by the frame structure. An upright carrier structure was longitudinally-adjustably-secured to the side members and had a fixed angular relation to the side members in all adjusted positions. An accessory structure was also provided. Means were provided for adjustably securing the accessory  
15 to the upright carrier structure.

Canadian Patent No. 715,434, issued August 10, 1965, to S. Mitty et al., provided a shopping cart which included a pair of vertically-spaced apart containers. The shopping cart included a folded corrugated paperboard body forming a container. A wheel assembly was secured to the bottom of the container at the rear thereof. The  
20 assembly also included a folded corrugated paperboard member with a horizontal shelf, and a trough extending below the shelf. A rod extended through the trough, and a pair of wheels were held on the ends of the rods. An inverted U-shaped wire handle having depending sides was slidably secured to assembly. A base rest was mounted at the bottom of the container at the front thereof.

25 Canadian Patent No. 750,829, issued June 17, 1967, to S. M. Stanley et al., provided a wheeled supermarket cart having two levels of storage shelves. The cart included a first receptacle having a bottom which was pivotally mounted on the frame for rocking movement from a forwardly-extending to an upright position by the engagement of its forward end with another cart. Means acted on the first receptacle to  
30 apply a force thereto opposing the force of gravity. A gate was pivotally mounted in the

forward end of the first receptacle to close the end thereof in one position and to form an extension of its bottom in another position. A frame was provided at the rear of the first receptacle having spaced upwardly-extending rails forming an abutment slide for engagement by the forward end of the first receptacle of another car. A transverse bar 5 extended between the spaced rails to form a handle.

Canadian Patent No. 954,159, issued September 3, 1974, to A. Trahlano, provided a wheeled nestable car order cart which included a pair of vertically-spaced apart shelves. The cart included a frame having a bottom U-shaped portion opening to the front of the cart and was shaped nestably to receive the bottom U-shaped portion of 10 the frame of a second cart. The cart included one shelf which was pivotably mounted at, or adjacent to, the base of the bottom, U-shaped portion of the frame and which normally extended toward the front of the cart. Means were provided at the back of the cart for guiding the shelf on the second cart to an upwardly extending position when the first cart is nested in the second cart. The second shelf was located above the first shelf. 15 The second shelf was pivotably mounted on a vertical portion of the frame for movement between a horizontal position and an upwardly-extending position, when two carts were internested.

Canadian Patent No. 1,124,275, issued May 25, 1982, to R. P. Hutchman et al., provided a hand cart including a pair of side frames, which were spaced laterally from 20 one another and which converged towards the front of the cart so as to permit nesting of the cart into the rear of another cart of similar configuration. Means interconnected the side frames adjacent the front of the cart, at the bottom of the side frames. Means interconnected the side frames at the rear of the cart and extended transversely of the cart 25 at a level no lower than the uppermost extent of the side frames so as to permit passage thereunder of the side frames of another cart of similar configuration. At least one, and preferably two, inner basket supports were provided, including a pair of laterally-spaced, parallel rails which were spaced inwardly from respective ones of the side frames and which sloped from front to rear of the cart, the rails being connected to the respective side frames at the front of the cart. Suspension means suspended the rails from the side 30 frames at the rear of the cart. The suspension means were configured and positioned so

as to permit the passage thereunder and to either side thereof of the side frames and basket support of another cart of similar configuration.

Canadian Patent No. 1,253,900, issued May 9, 1989, to J. F. Reinbold et al., provided a combination shopping cart and stock cart which included both upper and lower shelves. That cart included a wheeled chassis that provided a carton-carrying platform on which large packages, boxes or cartons could be carried. The cart included a pair of vertically-upright support posts which were carried by the chassis at its rear end, one of the posts being located on each side of the chassis. An inverted, U-shaped, vertical support member was also carried by the rear portion of the chassis, well back of the fore-and-aft mid-point of the chassis, with the bight of the inverted U forming a horizontal cross support member which was located forward of the upper ends of the pair of upright support posts that are located at the rear end of the cart. A horizontal side support member was provided on each side of the cart. This support member connected each of the rear upright support posts with the inverted U-shaped support member, preferably with the bight of the U-shaped member. This provided a side support frame on each side of the cart. Cantilever beams were pivotally mounted on the two side support frames to pivot, from a horizontal, operative position extending forward of the inverted U-shaped vertical support member, to a vertical, out-of-the-way position above the U-shaped support member, and back again. The pivot axis of the pivoted cantilever beam was located rearward of the horizontal cross support member that was forced by the bight of the inverted U-shaped support member. The cart was completed by a basket defining a lading-carrying space. The basket was secured to the pivoted cantilever beam so as to be supported by that beam selectively in either its horizontal, operative position or its vertical, out-of-the-way position. The rear end of the basket was located at the pivot axis of the mounting between the pivoted cantilever beam and the two side support frames.

Canadian Patent No. 1,308,134, issued July 7, 1988, to A. Le Marchand et al., provided a shopping trolley which was provided with an upper pivoting basket and a lower shelf. In the trolley, the upper trolley basket or tray was pivotally-mounted on the frame in order to be capable of withdrawing to a vertical position and thus freeing the

entire space located above the bottom platform. The pivotally-mounted basket was closed at the rear end by a flap which was freely mounted for pivotal displacement at its top edge. Its shape permitted engagement of the basket through the similar rear end of another identical trolley. Guiding of this movable element into its position of withdrawal  
5 was performed by means of two vertical guides which extended against the rear uprights of the handle-bar frame and in which were engaged trunnions carried by the sides of the movable element, the horizontal axis of pivotal displacement of this element being defined by the trunnions. The two guides which were provided for the trunnions of the pivotally-mounted basket and which were disposed in two vertical planes parallel to the  
10 longitudinal axis were inclined in such a manner as to ensure that their lower ends were placed further forward than their upper ends, so that in the vertical position of withdrawal, the pivotally-mounted basket was placed between the two uprights of the handle-bar frame without projecting behind the handle-bar frame.

Canadian Patent No. 2,059,351, patented May 20, 1997, by J. A. Junta, et al.,  
15 provided a compartmentalized basket truck. The basket truck included a base platform comprising a layer of longitudinal wood slats and a layer of transverse wood slats which were fixed together in known manner. The base platform had a caster at least at each corner thereof, each caster being mounted to the base platform by a steel support plate. A primary framework extended upwardly from the platform and included a continuous  
20 top rim which was elevated above the platform by a plurality of vertical peripheral upright members, the upright members including four corner members which engaged through the platform and to a corresponding steel support plate. The framework further included removable horizontal cross members which were engageable to the primary framework to divide the basket truck into at least three sections. The framework still further included central uprights for maintaining the cross members horizontal at the  
25 midpoint thereof. The basket truck further included fabric bodies which were sized and configured to seat within the divisions of the framework and to have a bottom surface which rested upon the platform. Each fabric body had a reinforced top lip, the top lip being segmented and including at least one eyelet therein. The top lip was folded over  
30 a corresponding horizontal frame member and was fixed thereto by a plurality of clips.

The basket truck finally further included disposable liners which were seated within the fabric bodies.

Canadian Patent No. 2,082,601, patented March 4, 1997, by M. B. Davidson et al., provided a shopping cart and container including an upper and a lower shelf. The shopping cart and container included a plurality of containers which were dimensioned for containing merchandise. The containers included a bottom, two pairs of opposed walls extending upwardly from the bottom to provide an open top, and a lip extending from the upper edges of the walls. A cart was provided for transporting the containers, the cart including an elongated wheeled base, a frame extending upwardly from the base, handle means coupled to the frame for handling the cart, and at least one rack which was carried by the frame, the rack including shelving extending laterally-outwardly from the frame for supporting at least one of the containers at the bottom thereof. Securing means were associated with the rack and containers for releasably securing the containers to the shelving, wherein the securing means included at least one pin extending generally upwardly from the rack. The securing means included at least one aperture in the lip of the container which was dimensioned to mate with the at least one pin.

Canadian Patent Application No. 2,201,974, filed April 7, 1997, by G. Mancine, provided a so called "litter buggy". That litter buggy included a container raising and conveying device. That device included a two wheel hand cart and a bucket in the form of a two wheel dolly. The dolly included two hooks that hooked under the overlap of the bucket. By pulling back on the handle, the container was levered off the ground without having to lift anything.

**(d) DESCRIPTION OF THE INVENTION**

Thus, it is readily seen that no single device has been provided which can be used to segregate recyclables from one another while providing a stress relieving framework which had a significantly increased longevity and light weight.

An object, therefore, of one aspect of the present invention is to provide an economical, sturdy recycling stand or bin cart for mounting and transporting recycling trash bins, the stand or cart being sized so that the trash bin can be readily put onto the

stand or cart and wheeled directly to the curb without the interim steps of lifting the bins from the house to the curb, so that any bin containing heavy materials would be located close to the ground for easy removal.

An object of a second aspect of the present invention is to provide a tubular metal stand or cart combining ease of manufacture, economy of space and money and utility, particularly for accommodating a plurality of bins designated to contain different types of recyclable trash which are collected in one location and then transported on the cart to a location where the trash is picked up for disposal.

An object of a third aspect of this invention is to provide a stand or cart including a post which is suitable for providing means for supporting at least one of the containers for recyclable material on each side thereof, to bring either container into handy reach for purposes of filling or removal.

An object of a fourth aspect of this invention is to provide a wheeled cart for the containers for recyclable materials and means to draw it to a location where the handling, removing or emptying of the containers for recyclable materials may be more convenient.

An object of a fifth aspect of this invention is to provide a stand or cart having a frame construction to which a body member may be removably connected, the body member being mounted on the frame without the need of clamps, screws or any type of manipulative means for securing the body member to the frame.

An object of a sixth aspect of this invention is to provide a stand or cart which assumes an upright position without any adjustment and which is easily moved.

An object of a seventh aspect of the present invention is to provide an improved stand or cart which is particularly adapted for use with containers for recyclable materials but which is also readily adaptable for use performing other tasks and chores.

An object of an eighth aspect of the present invention is to provide an improved stand or cart which is inexpensive, dependable and fully effective in accomplishing its intended purpose.

An object of a ninth aspect of this invention is to provide an improved stand or cart which is of a relatively simple, compact and rugged construction requiring a

minimum of maintenance and repair, economical to manufacture and one which may be easily handled and operated.

An object of a tenth aspect of this invention is to provide a wheeled cart which is adapted for use with containers for recyclable materials, which includes wheels and a handle, thus enabling a user to use the cart somewhat in the manner of a hand truck, with the wheels supporting the weight of the cart and contents, but which is capable of being supported to remain upright when at rest.

An object of an eleventh aspect of this invention is to provide a wheel-equipped, easy-to-handle openwork frame cart, which, when it is stationary, provides a rack, and which may be then utilized as a cart for handily transporting containers for recyclable materials, especially when they are heavily loaded, from place to place.

Accordingly, the present invention now provides, in a first aspect, a stand or wheeled cart for the temporary support of containers for storing recyclable materials, comprising a platform of an open framework nature, a main post which is upstanding from the base platform, and at least two open framework support members, each being for supporting a container for storing recyclable material, the support members being secured to the main post in positions which are diametrically opposed to one another, at either at the same vertical level or at different vertical levels on the main post.

By one variant of this first aspect of the invention, the base platform, the main post, and the open framework support members are each formed of hollow cross-section square metal or plastic tubing.

The present invention also provides, in a second aspect, a wheeled cart for the temporary support and transportation of containers for storing recyclable material, the wheeled cart comprising a base platform of an open framework nature, a main post which is upstanding from the base platform, and at least two open framework support members, each framework support member being provided for supporting a container for storing recyclable material, the open framework support members being secured to the main post diametrically opposed to one another, and either at different level or at an equal vertical level on the main post, a second post which is upstanding from the base platform and which is disposed a spaced, longitudinal distance from the main post, the

second post preferably also including an arcuate arm, the arcuate arm being sized to support a conventional cylindrical garbage can therewithin.

By one variant of the second aspect of the invention and/or of the above variant thereof, the support members are secured to the main post in positions which are at different vertical levels on the main post. By a second variant of this second aspect of the invention and/or of the above variant thereof, the support members are secured to the main post in positions which are at the same vertical level on the main post.

By a third variant of the first and second aspects of the invention and/or of the above variants thereof, the base has a generally-rectangular peripheral shape and includes a central, longitudinally-extending rail.

By a fourth variant of the first and second aspects of the invention, and/or the above variants thereof, the main post comprises a first upright standard which is formed of square cross-section hollow metal or plastic tubing. By one specific variation thereof, the central, longitudinally-extending rail includes a bushing of hollow square cross-section of a size to connect with the first upright standard. By a second specific variation thereof, the upright standard is provided with a hollow square cross-section tubular bushing, and a first open framework support is provided with a support arm of a square cross-section of a size to connect with the tubular bushing. By a third specific variation thereof, a second open framework support is provided with a support arm of square cross-section of a size to be accommodated within the open upper end of the upright standard. In a fourth specific variation thereof, the support arms are either of inverted "L"-shape or of step shape.

By fifth and sixth variants of this second aspect of the invention, and/or of the above variants thereof, the main post and second post are of approximately the same height, or the main post is approximately one-half of the height of the second post.

By a seventh variant of this second aspect of this invention and/or of the above variants thereof, the wheeled cart includes an arcuate arm on the second post, the arcuate arm being sized to support a conventional cylindrical garbage can therewithin.

By an eighth variant of this second aspect of this invention and/or of the above variants thereof, the wheeled cart includes a transverse handle at the upper end of the second post.

5 By a ninth variant of this second aspect of this invention, and/or of the above variants thereof, the wheeled cart includes an upstanding handle system which is spaced a longitudinal distance in the opposite direction from the main post than the second post.

By a tenth variant of the second aspect of the invention, and/or of the above variants thereof, the wheeled cart is formed of hollow, square cross-section metal or plastic tubing.

10 By an eleventh variant of the second aspect of the invention, and/or of the above variants thereof, the base has a generally-pentagonal peripheral shape including a rectangular portion and a triangular portion, and includes a central, longitudinally-extending rail, extending longitudinally to the apex of the triangular portion. By one specific variation thereof, the wheeled cart includes an axle which is secured below the 15 rectangular portion, the axle including a free-wheeling wheel which is rotatable secured at each end thereof, and a freely-steerable, free-wheeling castor which is secured below the apex of the triangular portion.

20 By a twelfth variant of the second aspect of the invention and/or of the above variants thereof, the handle system comprises a pair of transversely-spaced-apart, laterally-upwardly-and-rearwardly-extending members, which are interconnected by at least one transversely extending bar. By a specific variation thereof, the wheeled cart further includes a pair of lateral sprung members which are situated adjacent to, but 25 forwardly of, the handle system, the pair of lateral sprung members being joined at their lower end to the handle system, and at their upper ends being joined together by a transverse member.

The present invention further provides, in a third aspect, a knock-down assembly for erection into a stand or wheeled cart for the temporary support and/or transportation of containers for storing recyclable material, the knock-down assembly comprising a base platform of an open framework nature, the base platform being formed of hollow, square 30 cross-section metal or plastic tubing, the base having a polygonal peripheral shape, and

including a central, longitudinally-extending rail, the central, longitudinally-extending rail including an upstanding bushing of hollow, square cross-section, a first standard, the first standard being formed of hollow, square cross-section metal or plastic tubing of a size to be connected to the bushing of hollow, square cross-section on the central, longitudinally-extending rail, the first standard including at least one bushings of hollow, square cross-section, and two open framework support members, each being for supporting a container for storing recyclable material, each of the support members being provided with a support arm of square cross-section, of a size to be connected to an associated one of the bushing of hollow, square cross-section on the first standard or into an open end of the first standard.

By one variant of the third aspect of the invention, the knock-down assembly includes a first standard which includes two bushings thereon.

By a second variant of the third aspect of the invention and/or the above variant thereof, the knock-down assembly includes a central, longitudinally-extending rail which includes a second upstanding bushing of hollow, square cross-section, at one end thereof, and the knock-down assembly includes a second standard, the second standard being formed of hollow, square cross-section metal or plastic tubing of a size to be connected to the second bushing of hollow, square cross-section on the central, longitudinally-extending rail.

By third and fourth variants of the third aspect of the invention and/or the above variants thereof, the knock-down assembly includes a base which is generally-rectangular in peripheral shape, or a base which has a generally-pentagonal peripheral shape, including a rectangular portion and a triangular portion, and also includes a central, longitudinally-extending rail, extending longitudinally to the apex of the triangular portion.

By a fifth variant of the third aspect of the invention, and/or the above variants thereof, the knock-down assembly includes support arms on the open framework support members which are either of inverted "L"-shape or of step shape.

By a sixth variant of the third aspect of the invention, and/or of the above variants thereof, the knock-down assembly includes an arcuate arm having a depending member of a size to be connected to an open end of the second standard.

5 By a seventh variant of the third aspect of the invention, and/or of the above variants thereof, the knock-down assembly includes a central, longitudinally-extending rail which includes a third upstanding bushing of hollow, square cross-section at one end thereof, and the knock-down assembly includes a second standard, the second standard being formed of hollow, square cross-section metal or plastic tubing of a size to be connected to the third bushing of hollow, square cross-section on the central, longitudinally-extending rail.

10 By an eighth variant of the third aspect of the invention, and/or of the above variants thereof, the knock-down assembly includes an arcuate arm which is provided with a support arm of a square cross-section of a size to be connected to with the hollow, square cross-section tubular metal or plastic bushing on the second standard.

15 By a ninth variant of the third aspect of the invention, and/or of the above variants thereof, the knock-down assembly includes a transverse handle at the upper end of the third standard.

20 By tenth and eleventh variants of the third aspect of the invention, and/or of the above variants thereof, the knock-down assembly includes an axle, the axle including a free wheeling wheel which is to be rotatably secured at each end thereof, and preferably also includes a freely-steerable, free-wheeling castor for securement below the apex of the triangular portion.

25 By a twelfth variant of the third aspect of the invention, and of the above variants thereof, the knock-down assembly includes a handle system, the handle system comprising a pair of transversely-spaced-apart, laterally-upwardly-and rearwardly-extending members, which are interconnected by at least one transversely-extending bar. By one specific variation thereof, the knock-down assembly also includes a pair of lateral sprung members which are situated adjacent to, but forwardly of, the handle system, the pair of lateral sprung members, being joined at their lower end to the handle system, and 30 at their upper ends being joined together by a transverse member.

5        The present invention in its broad aspects provides a stand or cart which is adaptable for use by household residents engaged in recycling of newspaper, mixed paper, cardboard, plastic, tin and glass materials. Such stand or cart can also be used for garbage collection and for the collection of business waste paper. The elderly and handicapped will benefit from this stand or cart as well.

10      This stand or cart is primarily for the organization of recycling materials. The stand or cart can be made in many embodiments as above referred to accommodate and adapt to the many different and varied recycling programs which exist in different cities or geographical regions in North America and worldwide. It is designed to keep recyclables in an organized setting by providing holders and storage areas for both bag-type and box-type styles of recycling containers, as well as providing space for cardboard items. These holders are sized to accommodate many known sizes of recycling bags and boxes. The stand, in one preferred embodiment, is made on a cart-style deck, with wheels, allowing easy transportation of recycling materials to the curb on pick-up day.

15      The many embodiments of the stand accommodate different settings, e.g., residential homes, multi-family developments, apartments, restaurants, offices, etc.

20      The stand or cart of aspects of this invention is an improvement over the prior art devices, since it is compact and can handle many items in addition to the conventional "Blue Box" container for recyclable materials. It avoids the cumbersome problem of removing cans and putting them back and filling them in. The stand or cart of aspects of this invention can be used to support more than one bag, and is mobile.

25      The stand or cart of aspects of this invention handles both the blue recycle bags and the yellow recycle bags, as well as the blue box and also a garbage can, all at the same time on one convenient cart system. The various aspects of this invention fit a number of recycling bags and recycling boxes on the market and in use in Canada and U.S.A. They can handle two bags instead of one. The cart aspect carries the bags to the curb along with a garbage can and is mobile and is also capable of carrying a blue recycle box. Other aspects provide various additional accessories, e.g., a holder for spare garbage bags and twist ties, cardboard holder, and removable skis. Another aspect is a child's toy model. Further aspects include wheel brakes, plastic lids of various

colours, handle grips, colour schemes, can crusher, extra garbage bag holder, weighted holder for bags, reflectors for safety, various number of wheels as applicable, small casters for upright model, skis for winter transport, canopy, aspects made of plastic model, or aluminum, or metal alloys or wood, twist tie holder, paper shredder, handle clips, cardboard holder, plastic or vinyl cover, means for connection of additional carts, and lids for the recycling bag holders. Still other aspects of the invention provide modifications and adaption to any garbage and recycling bag or box program in use, and for use in restaurants for table scrap clean up as well as in offices and other businesses for organized collection of recyclables and waste. For example, the base may include additional transverse and/or longitudinal members to reinforce the base to enhance stability and to enable castors to be added.

The use of the stand or cart of aspects of this invention helps clean-up and organization of recyclable materials and garbage area. It also provides one easy trip to the curb on pick-up day. It makes the sorting of material easier and provides a system for sorting that can eliminate the need for last minute sorting and clean up on pick up day, and speeds-up curb pick-up by the collection company. The present invention in its various aspects is usable for the separation of recyclable materials and mobile transportation of these materials to the curb, saving time and reducing clutter.

The benefits of the stand or cart of aspects of the present invention are that it offers convenience, is neat and tidy, save times, reduce work, improves safety by removing tripping and lifting hazards. It also reduces attraction of rodents, cats and dogs by keeping the garbage area clean. It also reduces the space required to store unwanted materials and reduces the curb-pick up time, and reduces litter at the curb by containing materials on the stand or cart, with the bags, boxes and garbage cans being less susceptible to being knocked or blown over.

The stand or cart of aspects of this invention may be provided in knock-down form but, because of its structure, there are no difficulties in assembly, since the assembly is without the use of nuts and bolts.

**(e) BRIEF DESCRIPTION OF THE DRAWINGS**

In the accompanying drawings:

FIGS. 1 to 7 are views of one embodiment of one aspect of this invention, in which

5 FIG. 1 is a perspective view of the stand of one embodiment of one aspect of the present invention;

FIG. 2 is a perspective view of the stand shown in FIG. 1 in partially exploded form;

FIG. 3 is a top plan view of the stand shown in FIG. 1;

10 FIG. 4 is a bottom plan view of the stand shown in FIG. 1;

FIG. 5 is a front elevational view of the stand shown in FIG. 1;

FIG. 6 is a rear elevational view of the stand shown in FIG. 1; and

FIG. 7 is a side elevational view of the stand shown in FIG. 1;

15 FIGS. 8 to 13 are views of a second embodiment of a second aspect of this invention, in which

FIG. 8 is a perspective view of the stand of the second embodiment of the second aspect of the present invention;

20 FIG. 9 is a perspective view of the stand shown in FIG. 8 in partially exploded form;

FIG. 10 is a top plan view of the stand shown in FIG. 8;

FIG. 11 is a bottom plan view of the stand shown in FIG. 8;

25 FIG. 12 is a perspective view, similar to FIG. 9, and showing a further variation of this second embodiment of the second aspect of the invention; and

FIG. 13 is a side elevational view of the stand shown in FIG. 12;

FIGS. 14 to 18 are views of a third embodiment of a third aspect of this invention, in which

30 FIG. 14 is a perspective view of the wheeled cart of this third embodiment of the third aspect of the present invention;

FIG. 15 is a top plan view of the wheeled cart shown in FIG. 14;

FIG. 16 is a side elevational view of the wheeled cart shown in FIG. 14;

FIG. 17 is a rear elevational view, of the wheeled cart shown in FIG. 14; and  
FIG. 18 is a front elevational view of the wheeled cart shown in FIG. 14;

FIGS. 19 to 23 are views of a fourth embodiment of a fourth aspect of this  
invention, in which

5 FIG. 19 is a perspective view of the wheeled cart of this fourth embodiment of  
the fourth aspect of the present invention;

FIG. 20 is a top plan view of the wheeled cart shown in FIG. 19;

FIG. 21 is a side elevational view of the wheeled cart shown in FIG. 19;

FIG. 22 is a rear elevational view, of the wheeled cart shown in FIG. 19; and

10 FIG. 23 is a front elevational view of the wheeled cart shown in FIG. 19; and

FIGS. 24 to 39 are views of a fifth embodiment of a fifth aspect of this invention,  
in which

FIG. 24 is a front perspective view of the wheeled cart of this fifth embodiment  
of the fifth aspect of the present invention;

15 FIG. 25 is a rear perspective view of the wheeled cart of this fifth embodiment  
of the fifth aspect of the present invention;

FIG. 26 is a top plan view of the wheeled cart shown in FIG. 24;

FIG. 27 is a side elevational view of the wheeled cart shown in FIG. 24;

FIG. 28 is a rear elevational view, of the wheeled cart shown in FIG. 24; and

20 FIG. 29 is a front elevational view of the wheeled cart shown in FIG. 24;

**(f) AT LEAST ONE MODE FOR CARRYING OUT THE INVENTION**

As seen in FIG. 1 to FIG. 7, the stand 100 of one embodiment of one aspect of  
this invention includes a generally-rectangular base 110, comprising a pair of outer  
25 longitudinal frame members 111, 112 and a pair of outer transverse frame members 113,  
114, which are interconnected together to form the generally-rectangular base 110 having  
arc-shaped corners. Also provided is a central inner longitudinal frame member 115.  
Frame members 111, 112, 113, 114 and 115 are preferably formed of hollow, square  
cross-section steel tubes. The base 110 may be formed of a single length of tubing, with  
30 suitable bends at the intersections of 111 with 113 and 114, and 112 with 114 or 113.

Once the tubing is so bent, it may be welded together at the two free ends. Alternatively, the base 110 may be formed of five tubular frame members, suitably welded together.

5 The central longitudinal frame member 115 is provided with an upright bushing 116, (see FIG. 2) which is formed of a hollow square cross-section tubular member, and is welded to the central longitudinal frame member 115. An upright standard 117, which is formed of a hollow, square cross-section tube whose cross-section dimension is slightly greater than that of the bushing 116 is connected to bushing 116. Approximately midway along its length, the standard 117 is provided with a hollow, square cross-section 10 tubular bushing 118, which is welded thereto.

One holder 120 for a box-type or bag-type style of container for recyclable material is in the form of a generally-rectangular open framework, with arc-shaped corners, which is provided with a support arm 119, which is welded thereto. The support arm 119 may be either of inverted "L"-shape or of step shape. As shown in 15 FIG. 1, support arm 119 is inverted "L"-shaped, formed with horizontal portion 119a and vertical portion 119b. As shown in FIG. 2 and FIG. 7, the support arm 119 is step shaped, having an upper vertical portion 119a, a mid horizontal portion 119b and a depending vertical portion 119c. The depending portion 119c is of square cross-section to fit into tubular bushing 118.

20 A second holder 122 for a box-type or bag-type style of container for recyclable material which may be the same size, or preferably be of a different overall size from holder 120 is in the form of a generally-rectangular open framework with arc-shaped corners, which is provided with a support arm 121 welded thereto. The support arm 121 may be either of inverted "L"-shape, or of step shape. As shown in FIG. 1, support arm 25 121 includes a horizontal portion 121a and a depending vertical portion (not seen). As shown in FIG. 2 and FIG. 7, the support arm 121 is step shaped having an upper vertical portion 121a, a mid horizontal portion 121b and a depending vertical portion 121c. The depending portion 121c is of square cross-section to fit into the open end of standard 117.

As seen more particularly in FIG. 8 to FIG. 11, the stand 200 of a second embodiment of a second aspect of this invention includes a generally-rectangular base 210, comprising a pair of outer longitudinal frame members 211, 212 and a pair of outer transverse frame members 213, 214, which are interconnected together to form the generally-rectangular base 210 having arc-shaped corners. Also provided is a central inner longitudinal frame member 215. Intermediate, inner, transverse, spaced-apart reinforcing frame members 213a, 214a, and, correspondingly, inner short transversely-spaced-apart, longitudinally-extending reinforcing frame members 211a, 211b, 212a, and 212b are also provided. These additional members are preferably formed of hollow, square cross-section steel tubular members. The base 210 may be formed of a single length of tubing, with suitable bends at the intersections of 211 with 213 and 214, and 212 with 214 or 213. Once the tubing is so bent, it may be welded together at the two free ends. Alternatively, the base 210 may be formed of eleven tubular frame members, suitably welded together.

The central longitudinal frame member 215 is provided with an upright bushing 216, (See FIG. 9) which is formed of a hollow square cross-section tubular member, and is welded to the central longitudinal frame member 215. An upright standard 217, which is formed of a hollow, square cross-section tube whose cross-section dimension is slightly greater than that of the bushing 216 is connected to bushing 216. Approximately midway along its length, the standard 217 is provided with a hollow, square cross-section tubular bushing 218, which is welded thereto.

One holder 220 for a box-type or bag-type style of container for recyclable material is in the form of a generally-rectangular open framework, with arc-shaped corners, which is provided with a support arm 219, which is welded thereto. The support arm 219 may be either of inverted "L"-shape or of step shape. As shown in FIG. 1, support arm 119 is inverted "L"-shaped, formed with horizontal portion 119a and vertical portion 119b. As shown in FIG. 9, FIG. 12 and FIG. 13, the support arm 219 is step shaped, having an upper portion 219a, a horizontal portion 219b and a depending vertical portion 219c. The depending portion 219c is of square cross-section to fit into tubular bushing 218.

A second holder 222 for a box-type or bag-type style of container for recyclable material which may be the same size, or preferably be of a different overall size from holder 220 is in the form of a generally-rectangular open framework with arc-shaped corners, which is provided with a support arm 221 welded thereto. The support arm 121 may be either of inverted "L"-shape, or of step shape. As shown in FIG. 1, support arm 121 includes a horizontal portion 121a and a depending vertical portion (not seen). As shown in FIG. 9, FIG. 12 and FIG. 13, the support arm 221 is step shaped having an upper portion 221a, a horizontal portion 221b and a depending vertical portion 221c. The depending portion 221c is of square cross-section to fit into the open end of standard 10 217.

This second embodiment of the second aspect is adapted to be fitted with a special castor 238. This castor is designed to fit over the corners of the base and is provided with two threads through bolts to hold it in place. The balls of the castor would slide behind the frame to hold it in place.

15 FIGS. 12 and 13 show one variation of the second embodiment of this invention. In this variation, the upright standard 217a is short and is provided with two hollow square cross-section brackets 218a, 218b. The support arms 219, 221, which are attached to holders 220, 222 fit into respective brackets 218a, 218b, at the same vertical height. As seen in FIG. 12 and FIG. 13, the support arms 219, 221 are step shaped, having an upper vertical portion 219a, 221a, mid horizontal portion 219b, 221b, and a depending vertical portion 219c, 221c. Depending vertical portion 219c, 221c is of square cross-section to fit into the open end of brackets 218a, 218b.

20 As seen in FIG. 14 to FIG. 18, the wheeled cart 300 of a third embodiment of a third aspect of the invention includes a generally-pentagonal base 310. This base 310 includes a generally-rectangular base portion 311, having arc-shaped corners, comprising a pair of outer lateral longitudinal frame members 312, 313, an outer transverse frame member 314 and an intermediate transverse frame member 315, which are interconnected together to form the rectangular base portion 311. The remainder of the pentagonal base consists of a triangular base portion 316, consisting of the intermediate transverse frame member 315 and two lateral angular members 317, 318 meeting at an apex 319. Also 30

provided is a central longitudinal frame member 320, extending from outer transverse frame member 314 to apex 319. A pair of internal transverse frame members 321, 322 extend from lateral transverse frame member 314 to lateral angular member 317, and to lateral angular frame member 318, respectively.

5 All frame members, namely 312, 313, 314, 315, 317, 318, 320, 321, 322, are preferably formed of hollow, square cross-section steel tubular members. The generally-pentagonal base 310 may be formed of a single length of tubing, with suitable bends at the intersections of 312 with 314 and 317, and 313 with 314 or 318. Once the tubing is so bent, it may be welded together at the two free ends at apex 319. Alternatively, 10 the base 310 may be formed of nine tubular frame members, suitably welded together.

15 The central longitudinal frame member 320 is provided with an upright bushing (not seen) which is formed of hollow, square cross-section tubular metal member, and is welded to the central longitudinal frame member 320. A first upright standard 324, which is formed of a hollow square cross-section tube whose cross-section dimension slightly greater then that of the bushing is connected to the bushing. Approximately 20 midway along its length, the first upright standard 324 is provided with a hollow, square cross-section tubular bushing 324, which is welded thereto.

25 One holder 325 for a box-type or bag-type style of container for recyclable material is in the form of a generally-race-track-shaped open framework, which is provided with a support arm 326 which is welded thereto. The support arm 326 may be either of inverted "L"-shape, or of step shaped. As shown in FIG. 14, support arm 319 is inverted "L"-shaped, formed with horizontal portion 319a and vertical portion 319b. As shown in FIG. 16, the support arm 326 is step shaped, having an upper horizontal portion 326a, a mid vertical portion 326b and a depending vertical portion (not seen). The depending portion is of square cross-section to fit into tubular bushing 324, 326.

30 A second holder 327 for a box-type or bag-type style of container for recyclable material which may be of the same size, but preferably may be of a different overall size than holder 325, is in the form of a generally-race-track-shaped open framework, which is provided with a support arm 328 which is welded thereto. The support arm 328 may be either of inverted "L"-shape or of step shape. As shown in FIG. 14, support arm 321

includes a horizontal portion 321a and a depending vertical portion (not seen). As shown in FIG. 16, the support arm 328 is step shaped having an upper portion 228a, a horizontal portion 328b and a depending vertical portion (not seen). The depending portion is of square cross-section to fit into the open end of standard first upright standard 324.

5 The apex 319 is provided with an upright bushing 329 which is formed of a hollow, square cross-section tubular metal member, and is welded to the central longitudinal frame member 320. A second upright standard 330, with a transverse handle member 330a at its upper end, which is formed of a hollow, square cross-section metal tubular member whose cross-section dimension is slightly greater than that of the bushing 329, is connected to the bushing 329. A third upright 331 is approximately one-third the height of second upright standard 230 is also connected to the base 310 at the apex 319 by means of a suitable bushing (not seen).

10 A semi-circular support 332, which is of a size and shape to support a conventional cylindrical garbage can, is provided with a support arm 333 welded thereto. The support arm 333 is of square cross-section to fit into the open end of third upright 331.

15 The base portion 311 is provided with means, to hold an axle 335 thereto. At each exposed end of the axle 335, a free-wheeling wheel 336 is rotatably mounted. A bushing 337 is secured below apex 319, and this bushing 337 serves as a mounting for 20 a steerable caster 338.

25 As seen in FIG. 19 TO FIG. 23, the wheeled cart 400 of a fourth embodiment of a fourth aspect of the invention includes a generally-pentagonal base 410. This base 410 includes a generally-rectangular base portion 411, having arc-shaped corners, comprising a pair of outer longitudinal frame members 412, 413, an outer transverse frame member 414 and an intermediate transverse frame member 415, which are interconnected together to form the rectangular base portion 411. The remainder of the pentagonal base consists of a triangular base portion 416, consisting of the intermediate 30 transverse frame member 415 and two lateral angular members 417, 418 meeting at an apex 419. Also provided is a central longitudinal frame member 420, extending from

lateral transverse frame member 414 to apex 419. A pair of internal transverse frame members 421, 422 extend from lateral transverse frame member 414 to lateral angular member 417, and to lateral angular frame member 418, respectively.

All frame members, namely 412, 413, 414, 415, 417, 418, 420, 421, 422, are preferably formed of hollow, square cross-section steel tubular members. The generally-pentagonal base 410 may be formed of a single length of tubing, with suitable bends at the intersections of 412 with 414 and 417, and 413 with 414 or 418. Once the tubing is so bent, it may be welded together at the two free ends at apex 419. Alternatively, the base 410 may be formed of nine tubular frame members, suitably welded together.

The central longitudinal frame member 420 is provided with an upright bushing (not seen) which is formed of hollow, square cross-section tubular metal member, and is welded to the central longitudinal frame member 420. A first upright standard 424, which is formed of a hollow square cross-section tube whose cross-section dimension slightly greater than that of the bushing is inserted into the bushing. Near the top of the first upright standard 424 two hollow, square cross-section tubular bushings 424, 424a are provided which are welded thereto on opposite faces thereof.

One holder 425 for a box-type or bag-type style of container for recyclable material is in the form of a generally-race-track-shaped open framework, which is provided with a support arm 426 which is welded thereto. The support arm 426 may be either of inverted "L"-shape, or of step shaped. As shown in FIG. 19, support arm 419 is inverted "L"-shaped, formed with horizontal portion 419a and vertical portion 419b. As shown in FIG. 19, the support arms 426 is step shaped, having an upper vertical portion 426a, a mid horizontal portion 426b and a depending vertical portion (not seen). The depending portion is of square cross-section to fit into tubular bushing 424.

A second holder 427 for a box-type or bag-type style of container for recyclable material which may be of the same size, but preferably may be of a different overall size than holder 420, is in the form of a generally-race-track-shaped open framework, which is provided with a support arm 428 which is welded thereto. The support arm 428 may be either of inverted "L"-shape or of step shape. As shown in FIG. 19, support arm 421 includes a horizontal portion 421a and a depending vertical portion (not seen). As shown

in FIG. 19, the support arm 428 is step shaped having an upper vertical portion 428a, a mid horizontal portion 428b and a depending vertical portion (not seen). The depending portion is of square cross-section to fit into the open upper end of standard first upright standard 424.

5        The apex 419 is provided with an upright bushing 429 which is formed of a hollow, square cross-section tubular metal member, and is welded to the central longitudinal frame member 420. A second upright standard 430 which is provided with a transverse handle member at its upper end, 430a, which is formed of a hollow, square cross-section metal tubular member whose cross-section dimension is slightly greater than  
10      that of the bushing 429 is connected to the bushing 429. A third hollow rectangular upright support 431 is connected to bushing 429. A third upright 431 is approximately one-third the height of second upright standard 430 is also connected to the base 416 at the apex 419 by means of a suitable bushing (not seen).

15      A semi-circular support 432, which is of a size and shape to support a conventional cylindrical garbage can, is provided with a support arm 433 welded thereto. The support arm 433 is of square cross-section to fit into the open end of third upright 431.

20      The base portion 411 is provided with means to hold an axle 435 thereto. At each exposed end of the axle 435, a free-wheeling wheel 436 is rotatably mounted. A bushing 437 is secured below apex 419, and this bushing 437 serves as a mounting for a steerable caster 438.

25      As seen in FIG. 24 to FIG. 29, the wheeled cart 500 of a fifth embodiment of a fifth aspect of the invention includes a generally-pentagonal base 510. This base 510 includes a generally-rectangular base portion 511 having arc-shaped corners, comprising a pair of outer longitudinal frame members 512, 513 and an outer transverse frame member 514 and an intermediate transverse frame member 515, which are interconnected together to form the rectangular base portion 511. The remainder of the pentagonal base consists of a triangular base portion 516 consisting of the intermediate transverse frame member 515 and two lateral angular members 517, 518 meeting at an apex 519. Also provided is a central longitudinal frame member 520, extending from lateral transverse  
30

frame member 514 to apex 519. A pair of internal transverse frame members 521, 522 extend from lateral transverse frame member 514 to lateral angular member 517, and to lateral angular frame member 518, respectively.

All frame members, namely 512, 513, 514, 515, 517, 518, 520, 521 and 522, are preferably formed of hollow square cross-section steel tubular members. The base 511 may be formed of a single length of tubing, with suitable bends at the intersections of 512 with 514 and 517, and 513 with 514 or 518. Once the tubing is so bent, it may be welded together at the two free ends at apex 519. Alternatively, the generally-pentagonal base 510 may be formed of nine tubular frame members, suitably welded together.

The central longitudinal frame member 520 is provided with an upright bushing (not seen) which is formed of a hollow, square cross-section tubular member, and is welded to the central longitudinal frame member 520. A first upright standard 524, which is formed of a hollow square cross-section tube whose cross-section dimension is slightly greater than that of the bushing, is connected to the bushing. Approximately midway along its length, the first upright standard 524 is provided with a hollow, square cross-section tubular bushing 524a, which is welded thereto.

A first holder 525 for a box-type or bag-type style of container for recyclable material is in the form of a generally-rectangular open framework, which is provided with a support arm 526 which is welded thereto. The support arm 526 may be either of inverted "L"-shape, or of step shape. As shown in FIG. 24 and FIG. 27, the support arm 526 is step shaped having an upper vertical portion 526a, a mid horizontal portion 526b and a depending vertical portion, only a portion of which 526c is seen. The depending portion is of square cross-section to fit into tubular bushing 524a.

A second holder 527 for a box-type or bag-type style of container for recyclable material which may preferably be of a different overall size from the first holder 525 is in the form of a generally-race-track-shaped open framework, which is provided with a support arm 528 which is welded thereto. The support arm 528 may be either of inverted "L"-shape, or of step shape. As shown in FIG. 24 and FIG. 27, the support arm 528 is step shaped having an upper vertical portion 528a, a mid horizontal portion 528b and a depending vertical portion, only a portion of which 528c being seen. The

depending portion is of square cross-section to fit into the open end of standard first upright standard 524.

The apex 519 is provided with an upright bushing (not seen) which is formed of the hollow square cross-section tubular member, and is welded to the central longitudinal frame member 520. A second upright standard 530 which is formed of a hollow square cross-section dimension is slightly less than that of the bushing, and which is approximately the same height as the first upright standard 514 is connected with the bushing.

A semi-circular support 532, which is of a size and shape to support a conventional cylindrical garbage can, is provided with a support arm 533 (see FIG. 27) which is welded thereto. The support arm 533 of square cross-section to fit into the open end of upright 530.

A handle structure 540 is provided at the rear of the wheeled cart 500. The handle structure 540 includes a pair of lateral, rearwardly inclined posts 541, 542 which are supported in respective bushings 529, 529a on to the rear lateral transverse frame 514 (See Fig. 25). Post 541 extends rearwardly as 543 and then as an upward extension 545. Post 542 extends rearwardly as 544 and then as upward extension 546. Posts 541, 542 are interconnected by mid level bar connecting 547 and upward extensions 545, 546 are interconnected by transverse handle bar 548. As shown, the handle structure 540 is of less width than the wheeled cart 500.

At the lower end of handle structure 540 is a large size, cardboard storage structure 550 consisting of two lateral, spring steel bars, i.e. downwardly extending bars 551 (adjacent handle member 541) and 552 (adjacent handle member 542), arcuate bent portions 553, 554, upwardly-extending bars 555, 556. Bars 551, 552 are interconnected by upper outer cross-bar 587, while bars 555, 556 are interconnected by upper inner cross-bar 558.

The rectangular base portion 511 is provided with means to hold an axle 535 thereto. At each exposed end of the axle 535, a free-wheeling wheel 536 is rotatably mounted. A bushing 537 is secured below apex 519, and this bushing 537 serves as a mounting for a steerable caster 538.

CLAIMS

1. A stand or wheeled cart for the temporary support of containers for storing recyclable material, comprising:
  - a base platform of an open framework nature;
  - a main post which is upstanding from said base platform; and
  - at least two open framework support members for supporting a container for storing recyclable material, said support members being secured to said main post in positions which are diametrically opposed to one another, at either at the same vertical level or at different vertical levels on said main post.
2. The stand or wheeled cart as claimed in claim 1 wherein said base platform, said main post, and said open framework members are formed of hollow cross-section square metal or plastic tubular member.
3. A wheeled cart for the temporary support and transportation of containers for storing recyclable material, comprising:
  - a base platform of an open framework nature;
  - a main post which is upstanding from said base platform;
  - at least two open framework support members for supporting containers for storing recyclable material, said support members being secured to said main post in positions which are diametrically opposed to one another; and
  - a second post which is upstanding from said base platform, said second post being disposed a spaced longitudinal distance from said main post; and
4. The stand or wheeled cart as claimed in claim 1, claim 2 or claim 3, wherein said open framework support members are secured to said main post in positions which are at different vertical levels on said main post.
5. The stand or wheeled cart as claimed in claim 1, claim 2 or claim 3, wherein said open framework support members are secured to said main post in positions which are at the same vertical level on said main post.
6. The wheeled cart as claimed in claim 3, wherein said main post and said second post are of approximately the same height.

7. The wheeled cart as claimed in claim 6, wherein said open framework support members are secured to said main post in positions which are at different vertical levels on said main post.
8. The wheeled cart as claimed in claim 6, wherein said open framework support members are secured to said main post in positions which are at the same vertical level on said main post.
9. The wheeled cart as claimed in claim 3, wherein said main post is approximately one-half the height of said second post.
10. The wheeled cart as claimed in claim 9, wherein said open framework support members are secured to said main post in positions which are at different vertical levels on said main post.
11. The wheeled cart as claimed in claim 9, wherein said open framework support members are secured to said main post in positions which are at the same vertical level on said main post.
12. The wheeled cart as claimed in claims 3 to 11, including an arcuate arm on said second post, said arcuate arm being sized to support a conventional cylindrical garbage can therewithin.
13. The wheeled cart as claimed in claims 3 to 12, including a transverse handle at the upper end of said second post.
14. The wheeled cart as claimed in claims 3 to 13, including an upstanding handle system which is spaced a longitudinal distance in the opposite direction from said main post than said second post.
15. The wheeled cart as claimed in claims 3 to 14, which is formed of hollow, square cross-section metal or plastic tubing.
16. The wheeled cart as claimed in claims 3 to 15, wherein said base has a generally-rectangular peripheral shape, and includes a central, longitudinally-extending rail.
17. The wheeled cart as claimed in claims 3 to 16, wherein said base has a generally-pentagonal peripheral shape, including a rectangular portion and a triangular portion, and includes a central, longitudinally-extending rail, extending longitudinally to the apex of said triangular portion.

18. The wheeled cart as claimed in claim 16 or claim 17, including an axle which is secured below said rectangular portion, said axle including a free wheeling wheel which is rotatably secured at each end thereof, and a freely-steerable, free-wheeling castor which is secured below said apex of said triangular portion.
19. The stand or wheeled cart as claimed in claims 1 to 18, wherein said main post comprises a first upright standard which is formed of a hollow, square cross-section metal tubular member.
20. The stand or wheeled cart as claimed in claims 1 to 19, wherein said central, longitudinally-extending rail includes an upstanding bushing of hollow, square cross-section of a size to connect with said main post.
21. The stand or wheeled cart as claimed in claim 19 or claim 20, wherein said first upright standard is provided with a hollow square cross-section tubular bushing, and wherein each of said open framework support members is provided with a support arm of square cross-section of a size to connect with said tubular bushing.
22. The stand as claimed in claim 21, wherein said support arms are either of inverted "L"-shape or of step shape.
23. The wheeled cart as claimed in claims 3 to 22, wherein said second post comprises a second upright standard which is formed of square cross-section, hollow metal tubing.
24. The wheeled cart as claimed in claim 23, wherein said second upright standard is provided with a hollow, square cross-section tubular metal bushing, and wherein one said arcuate arm is provided with a support arm of a square cross-section of a size to connect with said hollow, square cross-section tubular metal bushing.
25. The wheeled cart as claimed in claims 3 to 24, including a transverse handle comprising a pair of transversely-spaced-apart, laterally-upwardly-and-rearwardly-extending members, which are interconnected by at least one transversely extending bar.
26. The wheeled cart as claimed in claim 25, further including a pair of lateral sprung members which are situated adjacent to, but forwardly of, said transverse handle, said pair of lateral sprung members, being joined at their lower end to said handle system,

and at their upper ends being joined together by a transverse member and being longitudinally spaced from said handle system.

27. A knock-down assembly for erection into a stand or wheeled cart for the temporary support and/or transportation of containers for storing recyclable material, said knock-down assembly comprising:

a base platform of an open framework nature, said base platform being formed of hollow, square cross-section metal or plastic tubing, said base having a polygonal peripheral shape, and including a central, longitudinally-extending rail, said central, longitudinally-extending rail including an upstanding bushing of hollow, square cross-section;

a first standard, said first standard being formed of hollow, square cross-section metal or plastic tubing of a size to be connected to said bushing of hollow, square cross-section on said central, longitudinally-extending rail, said first standard including at least one bushings of hollow, square cross-section; and

two open framework support members for supporting a container for storing recyclable material, each of said support members being provided with a support arm of a square cross-section, of a size to be connected to an associated one of said bushing of hollow, square cross-section on said first standard or into an open end of said first standard.

28. The knock-down assembly as claimed in claim 27, wherein said first standard includes two said bushings.

29. The knock-down assembly as claimed in claim 27 or claim 28, wherein said central, longitudinally-extending rail includes a second upstanding bushing of hollow, square cross-section at one end thereof, and including a second standard, said second standard being formed of hollow, square cross-section metal or plastic tubing of a size to be connected to said second bushing of hollow, square cross-section on said central, longitudinally-extending rail; and/or wherein said first standard includes two said bushings and further wherein said central, longitudinally-extending rail includes a second upstanding bushing of hollow, square cross-section at one end thereof, and including a second standard, said second standard being formed of hollow, square cross-section metal

or plastic tubing of a size to be connected to said second bushing of hollow, square cross-section on said central, longitudinally-extending rail.

30. The knock-down assembly as claimed in claim 27, claim 28 or claim 29, wherein said base is generally-rectangular in peripheral shape.

31. The knock-down assembly as claimed in claim 27, claim 28 or claim 29, wherein said base has a generally-pentagonal peripheral shape, including a rectangular portion and a triangular portion, and also including a central, longitudinally-extending rail, extending longitudinally to the apex of said triangular portion.

32. The knock-down assembly as claimed in claims 27 to 31, wherein said support arms on said open framework support members are either of inverted "L"-shape or of step shape.

33. The knock-down assembly as claimed in claims 27 to 32, including an arcuate arm having a depending member of a size to be connected to an open end of said second standard.

34. The knock-down assembly as claimed in claims 27 to 33, wherein said central, longitudinally-extending rail includes a third upstanding bushing of hollow, square cross-section at one end thereof, and including a third standard, said third standard being formed of hollow, square cross-section metal or plastic tubing of a size to be connected to said third bushing of hollow, square cross-section on said central, longitudinally-extending rail.

35. The knock-down assembly as claimed in claim 34, including a transverse handle for securement to one end of said third upright standard.

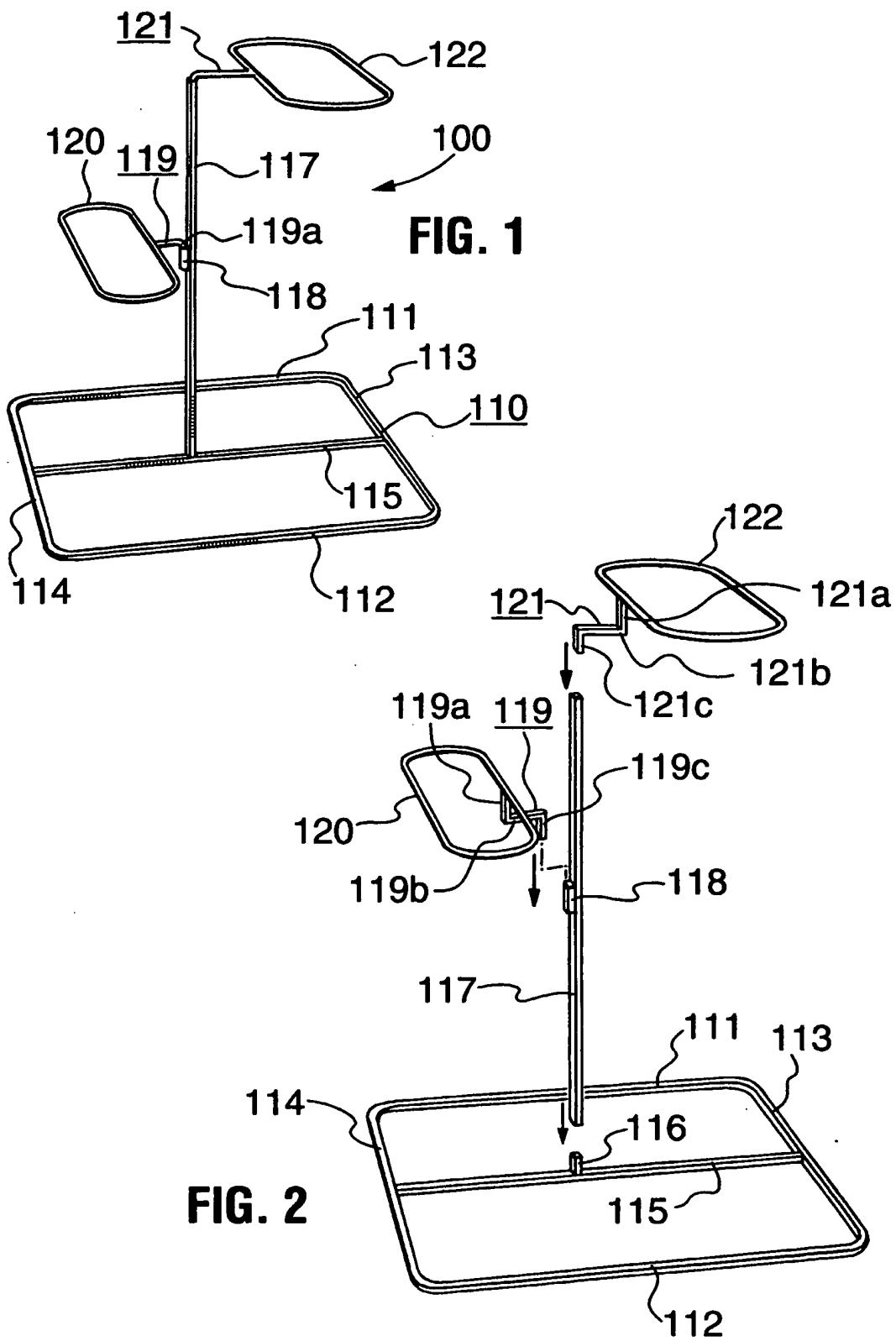
36. The knock-down assembly as claimed in claims 27 to 33, including an axle and two wheels, said wheels being for being free-wheelingly rotatably secured at each end of said axle, said axle being for securement below said base platform.

37. The knock-down assembly as claimed in claims 27 to 36, including a freely-steerable, free-wheeling castor for securement below said apex of said triangular portion.

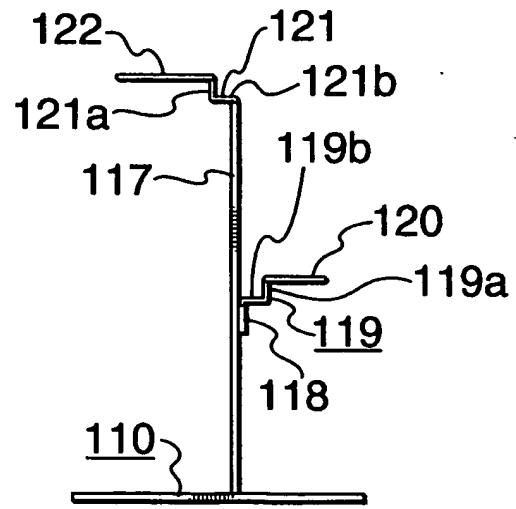
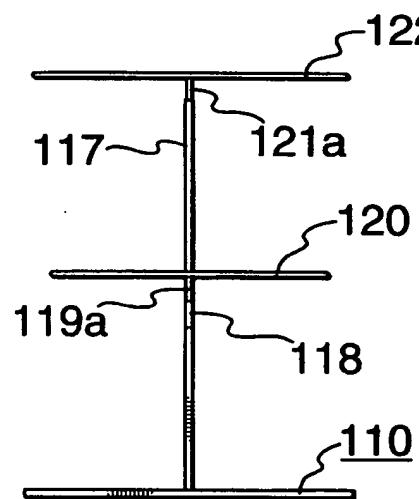
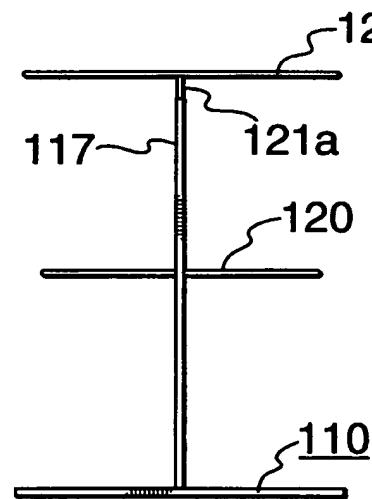
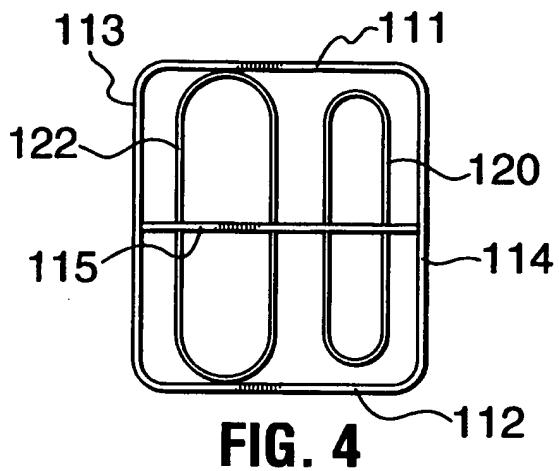
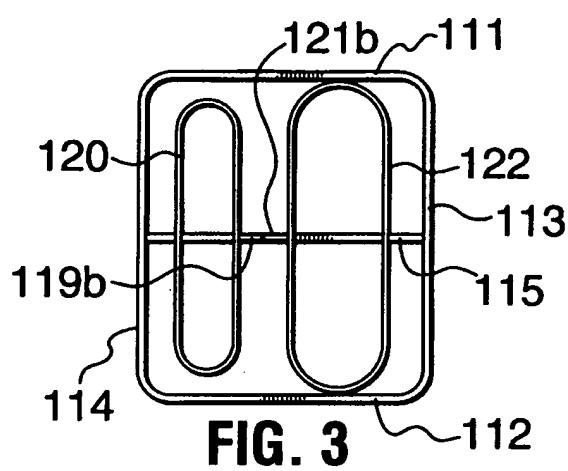
38. The knock-down assembly as claimed in claims 27 to 37, including a handle system, said handle system comprising a pair of transversely-spaced-apart, laterally-

upwardly-and rearwardly-extending members, which for being interconnected by at least one transversely-extending bar.

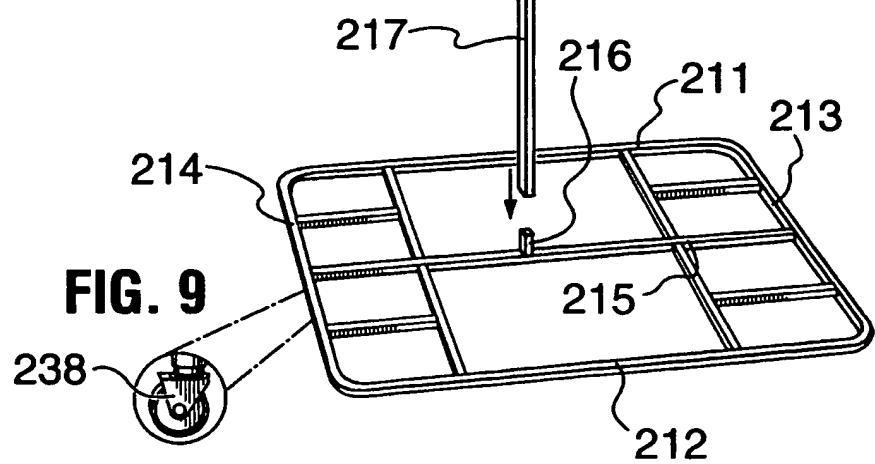
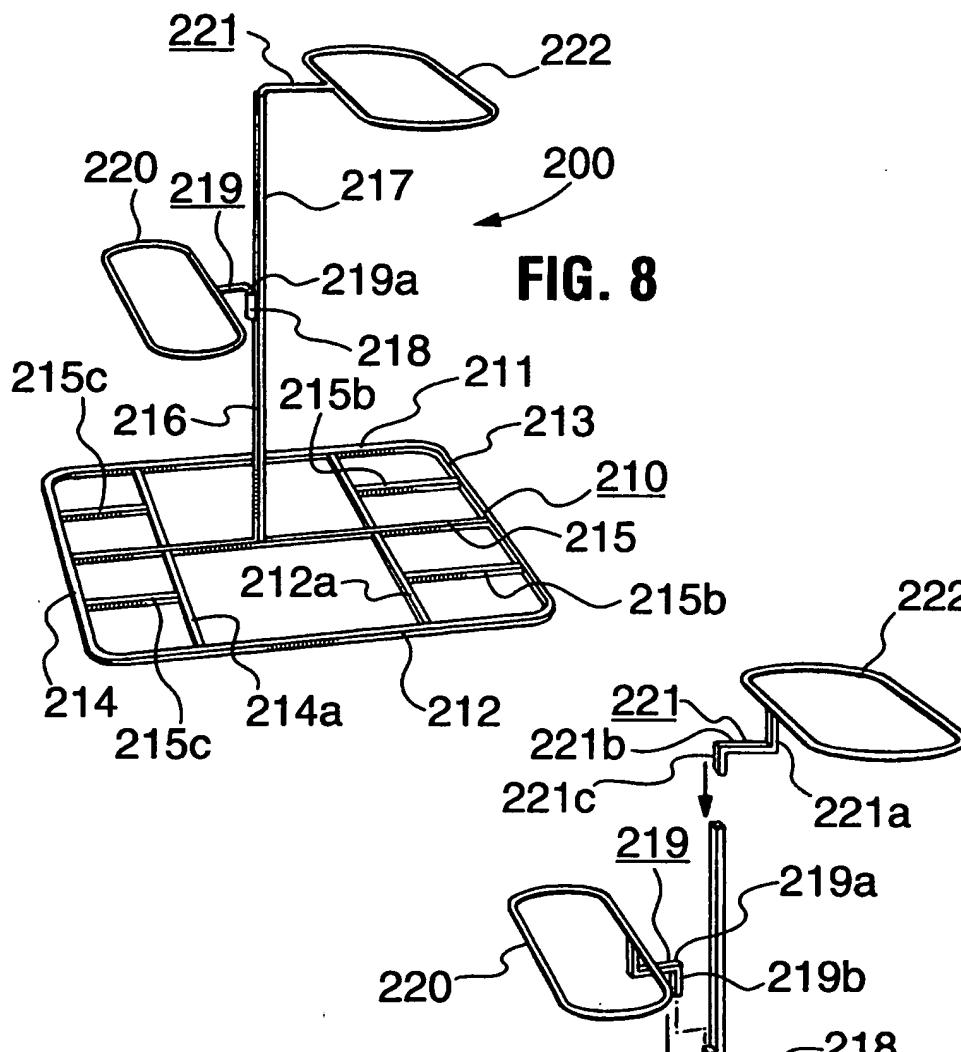
39. The knock-down assembly as claimed in claim 38, including an endless bar bent into a pair of lateral sprung members which are for being situated adjacent to, but forwardly of, said handle system, said pair of lateral sprung members, being for being joined at their lower end to said handle system, and for being joined together at their upper ends by a transverse member.



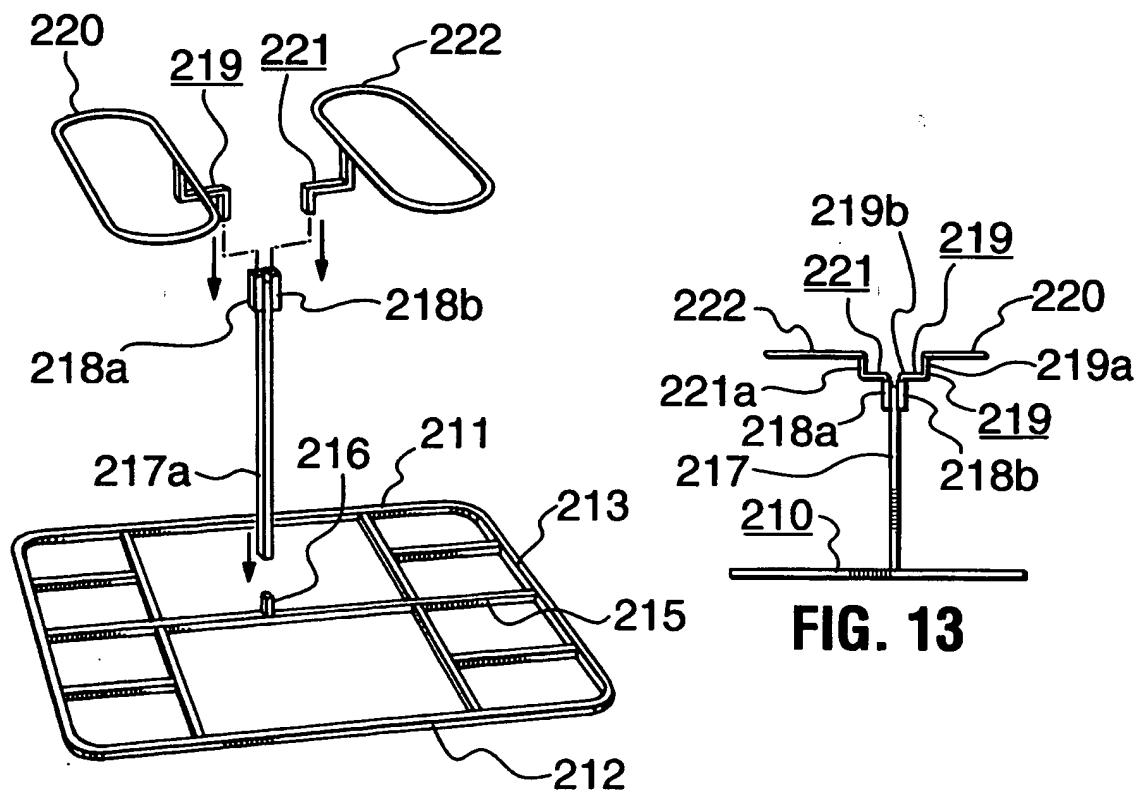
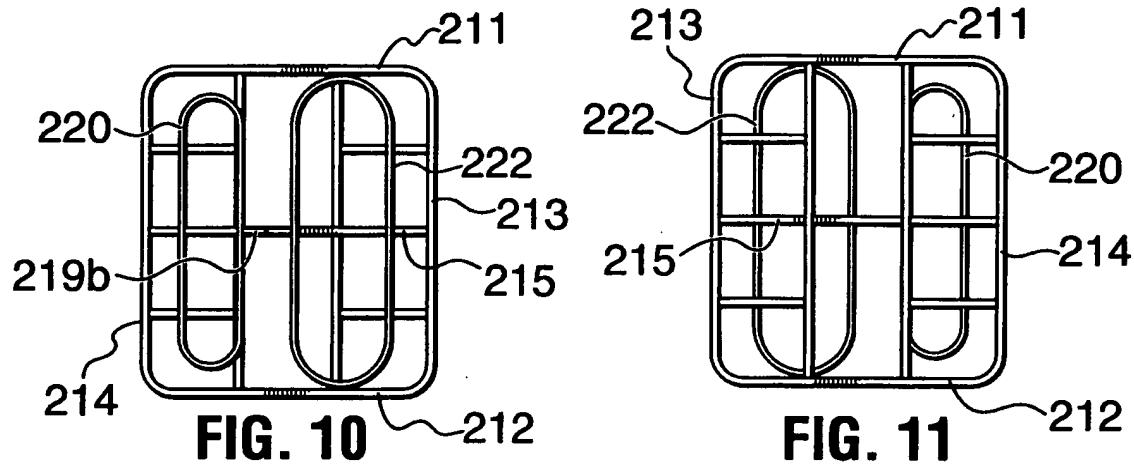
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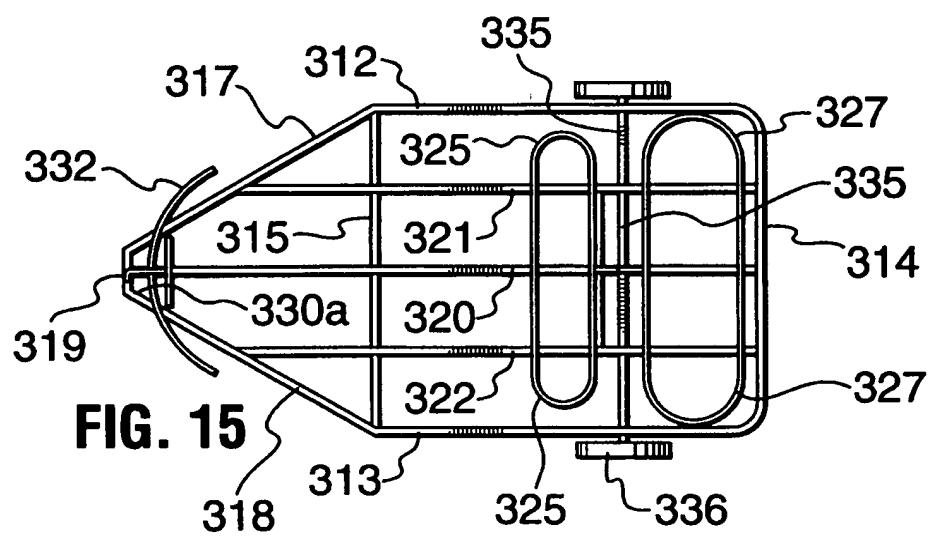
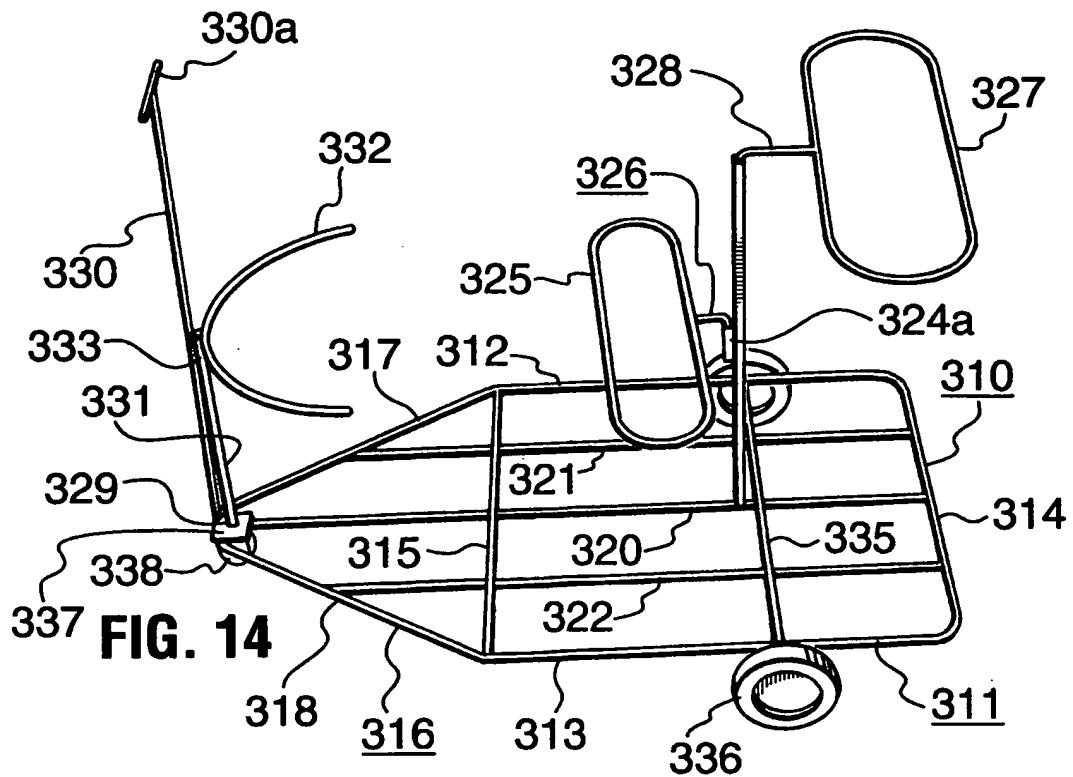
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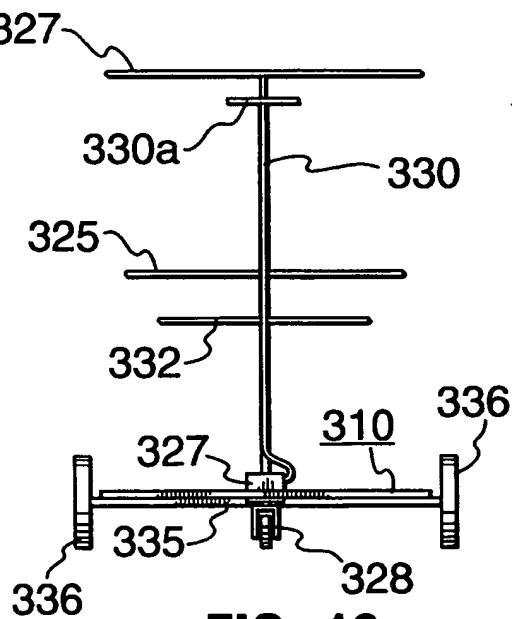
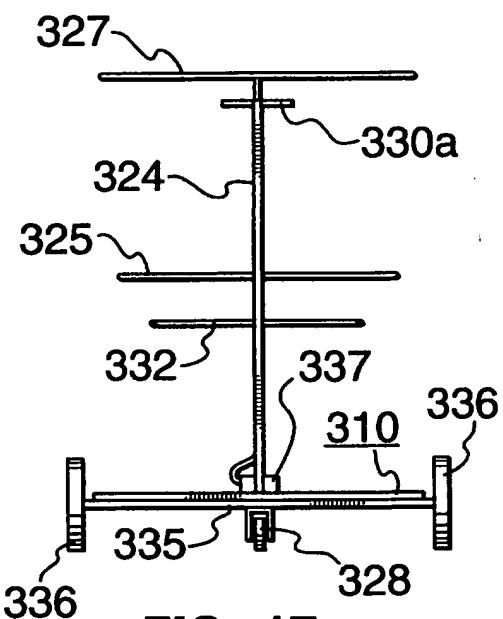
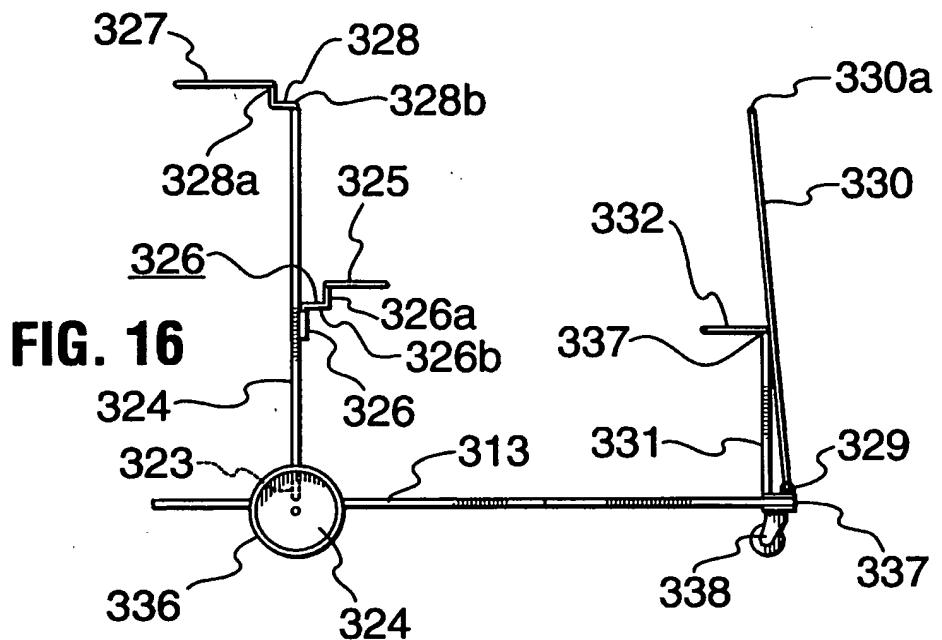
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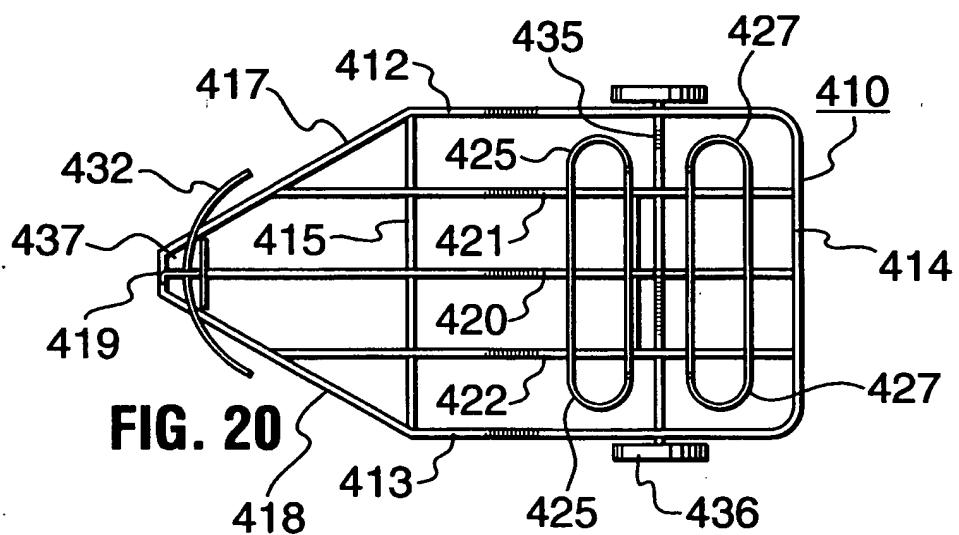
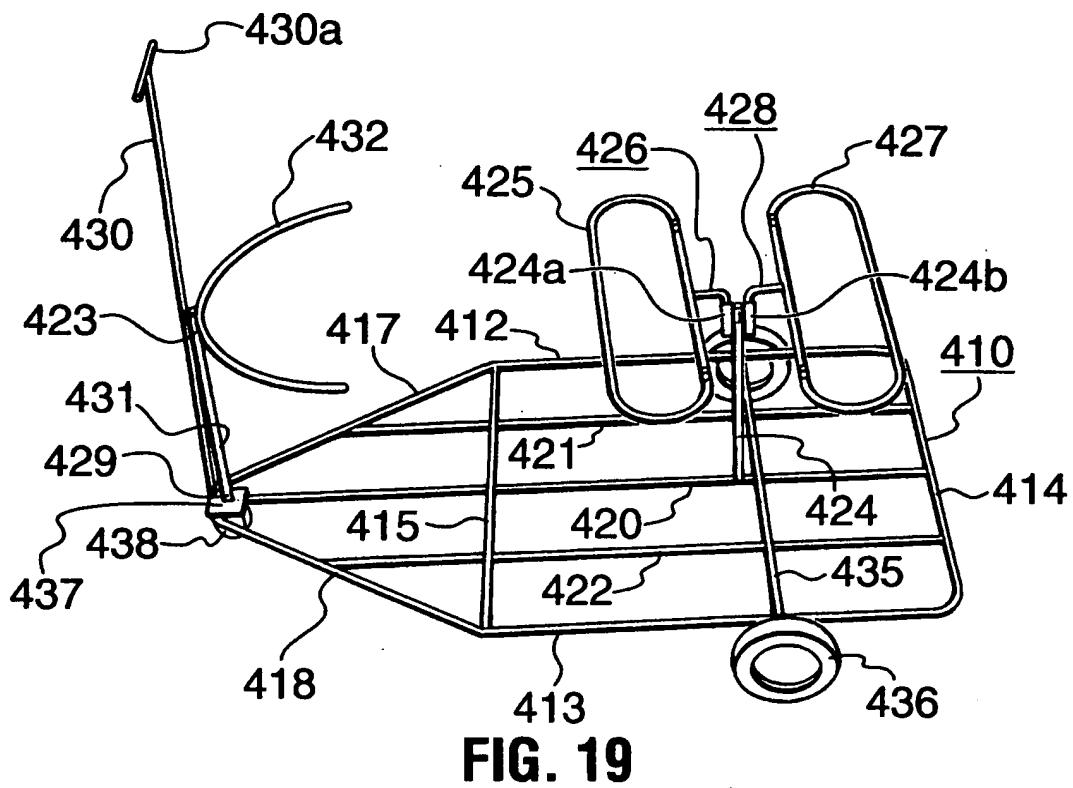
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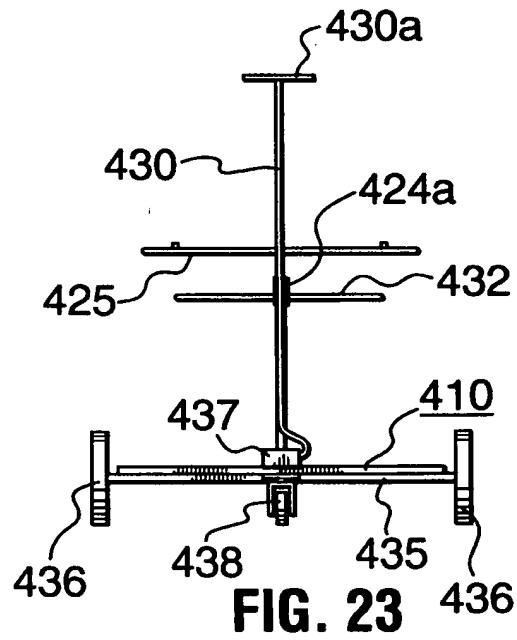
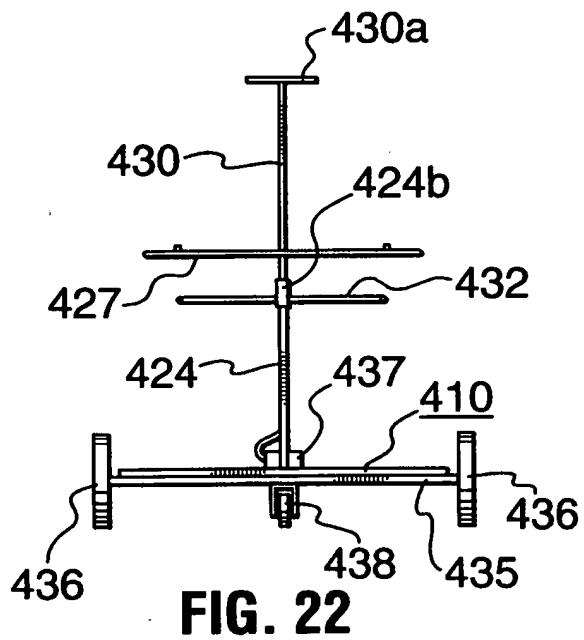
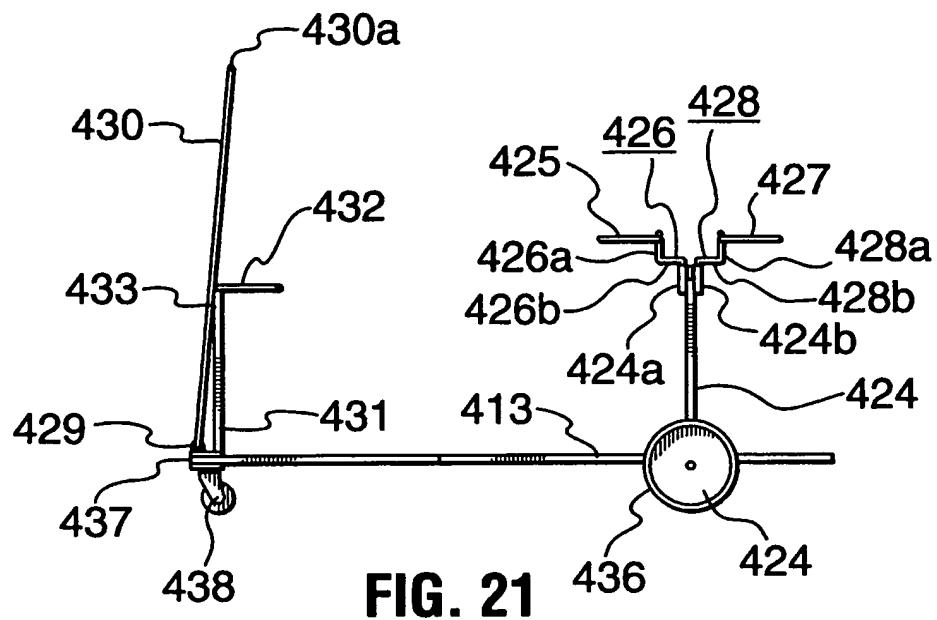
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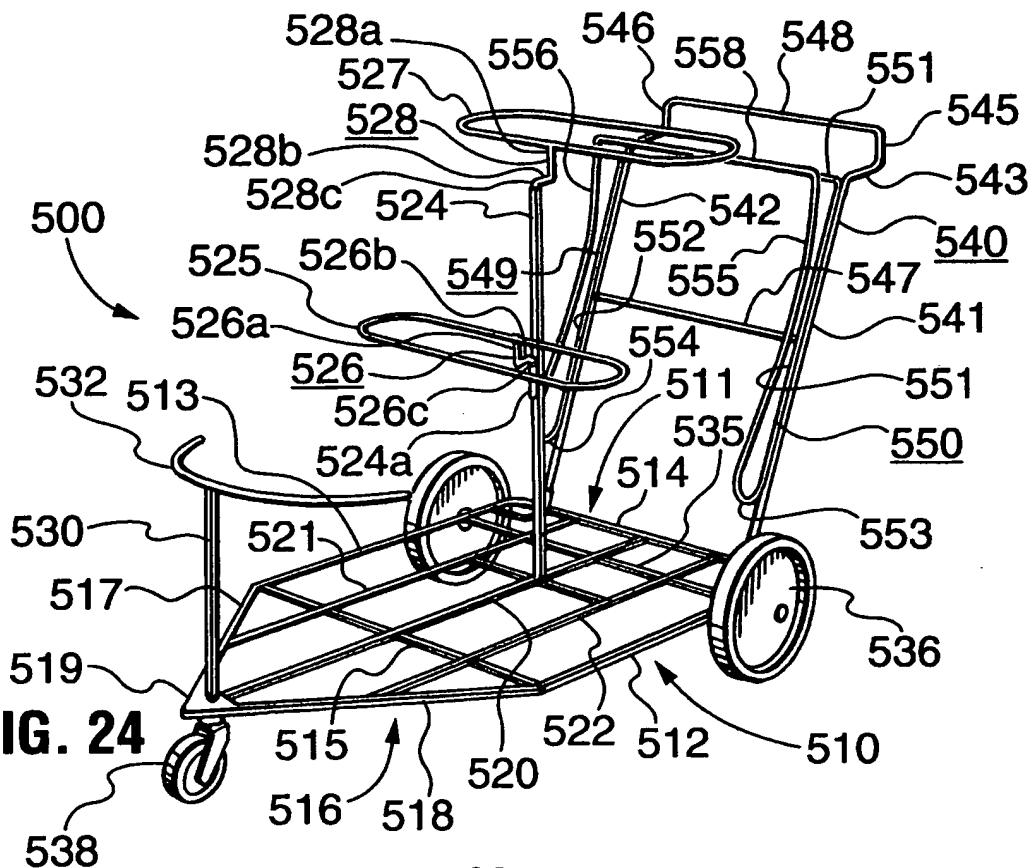
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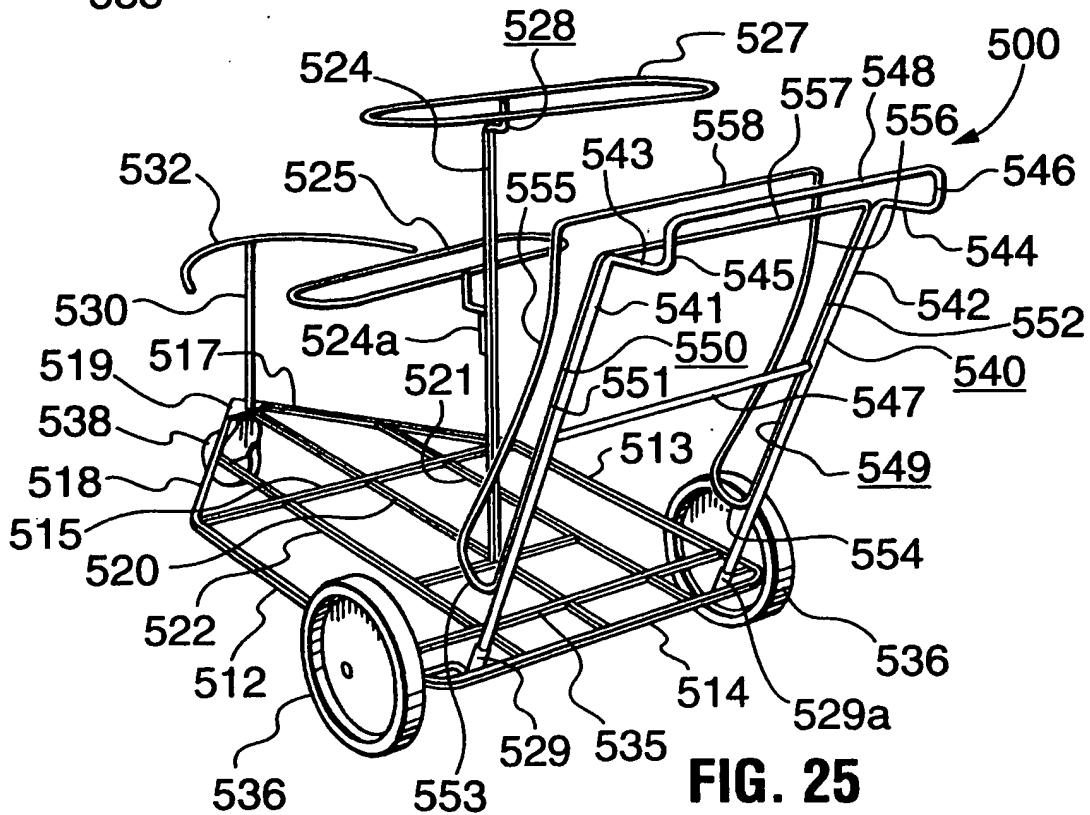
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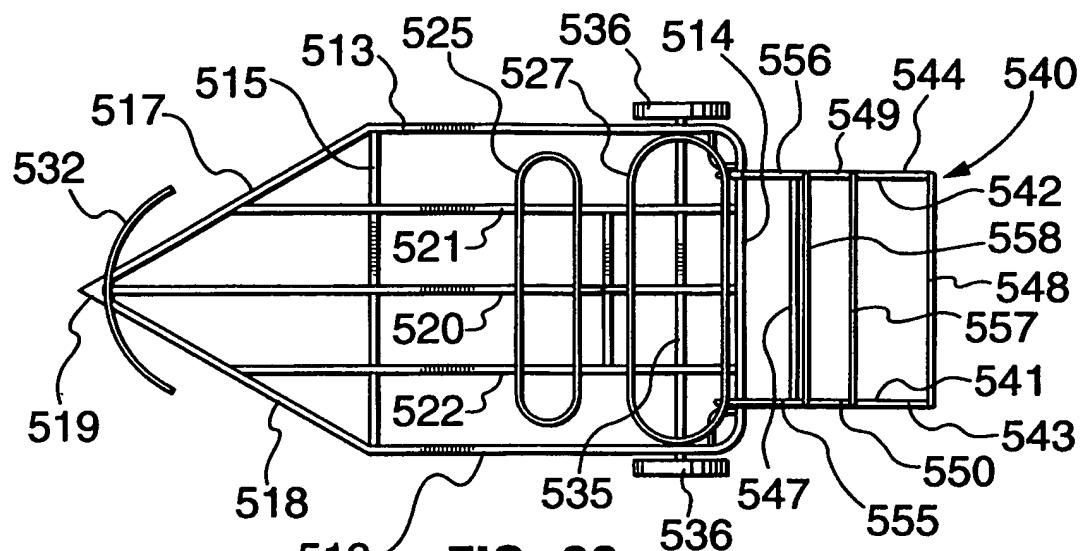
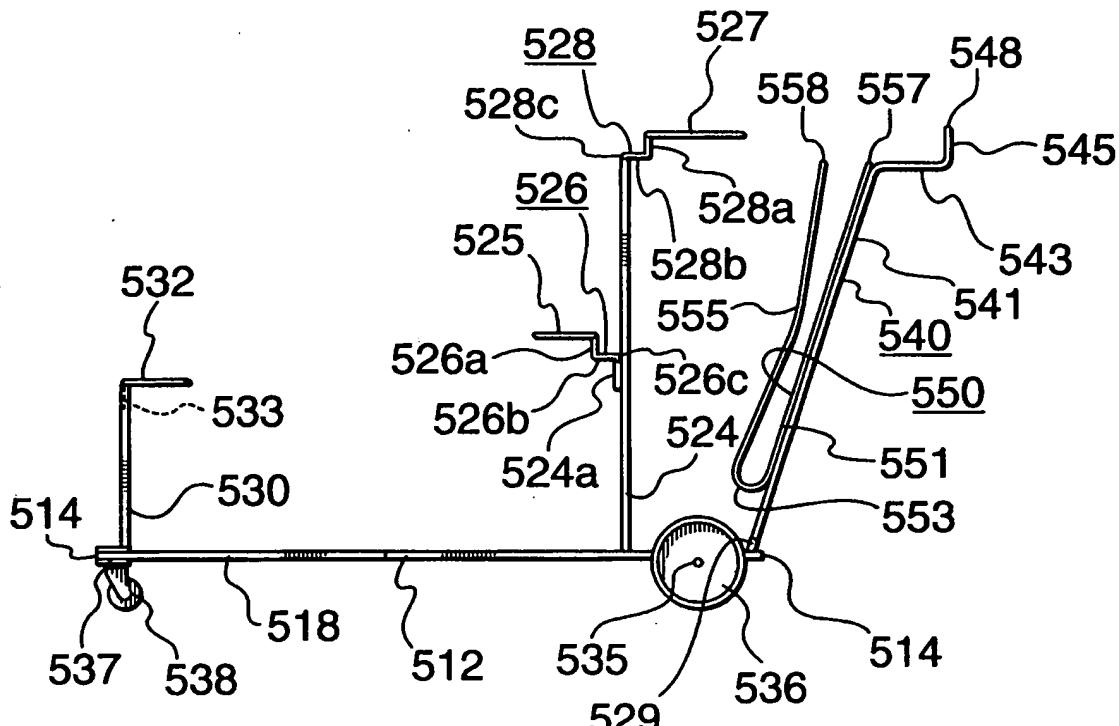


**FIG. 24**



**FIG. 25**

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**FIG. 26****FIG. 27**

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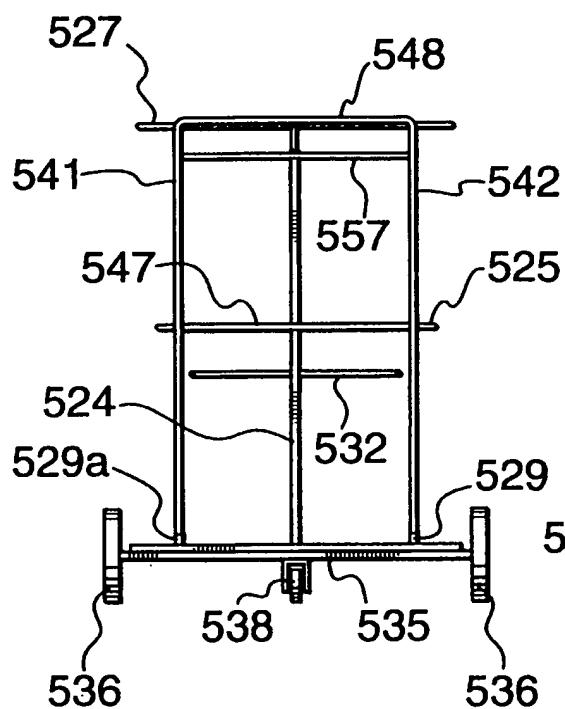


FIG. 28

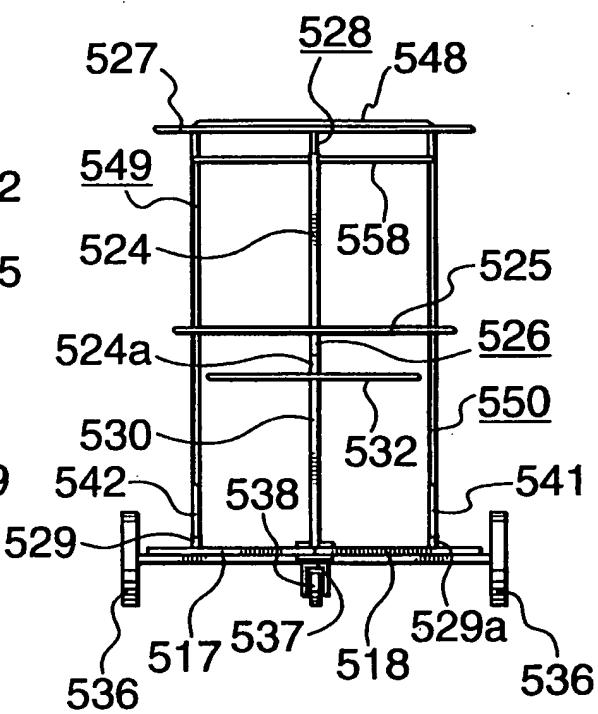


FIG. 29

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